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ABSTRACT

This document presents witness testimony and supplemental materials from a Congressional hearing regarding reform to national telecommunications policy, namely, replacing a regime of heavy regulation with a true market system. Statements are featured by Senators John Ashcroft, Conrad Burns, Ernest Hollings, Kay Baily Hutchison, John D. Rockefeller IV, Bob Packwood, Larry Pressler, and Ted Stevens. Testimony is included from: (1) Anne K. Bingaman, Antitrust Division, Department of Justice; (2) Henry Geller, the Markle Foundation; (3) George Gilder, the Discovery Institute; (4) Kenneth Gordon, Massachusetts Department of Public Utilities; (5) Peter W. Huber, Manhattan Institute; (6) Larry Irving, Department of Commerce; (7) John W. Mayo, University of Tennessee; (8) Dr. Lee Selwyn, Economics and Technology; and (9) Clay Whitehead, Clay Whitehead Associates. A brief appendix reports on the forecasts of the WEFA Group for communications competition. (BEW)

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HEARING ON TELECOMMUNICATIONS POLICY REFORM

HEARING

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDRED FOURTH CONGRESS

FIRST SESSION

MARCH 2, 1995

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HEARING ON TELECOMMUNICATIONS POLICY REFORM

THURSDAY, MARCH 2, 1995

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The committee met, pursuant to notice, at 9:50 a.m., in room SR–253, Russell Senate Office Building, Hon. Larry Pressler (chairman of the committee) presiding.

Staff members assigned to this hearing: Donald McClellan, counsel, and Katherine A. King, counsel; and John D. Windhausen, Jr., minority counsel, and Kevin Joseph, minority professional staff member

OPENING STATEMENT OF SENATOR PRESSLER

The CHAIRMAN. Turning to the hearing before us, I am pleased to welcome the many distinguished witnesses to the Senate Commerce Committee. All of us are here today to discuss long overdue action to reform Federal law on telecommunications.

Our challenge is to overthrow the old regime of heavy regulation in these markets and replace it with a true market system.

The burgeoning of the new technologies and the recent growth of the telecommunications industries in America is awesome. This sector now represents at least 10 percent of the U.S. economy.

It would be a costly mistake, however, to be complacent about this success. Old laws and regulations that serve no reasonable economic or social purpose are holding back American telecommunications firms from creating more jobs, offering new products and services, and cutting costs to consumers.

It seems to me that we are faced with a very challenging time in terms of telecommunications. I guess the ultimate goal is to get everybody into everybody else's business if we can.

We have had the three apartheid economic areas of the long distance companies, the regional Bell companies and of the cable companies, plus several smaller entrepreneur groups such as burglar alarm people and so forth.

But a rewrite of the 1934 Act would provide a road map for the next 15 years until we get into the wireless age if we can get it done.

People tell me that if there is such a road map, if there is certainty, there will be an explosion of investment and an explosion of new devices. Truly, we will enter the information age.

Right now, it is my judgment that there is a lot of paralysis. People are waiting for something definite. I know that Senator Hollings did a great job of trying to lead a consensus last year. We are trying to reach that still.

I am going to place the rest of my statement into the record. If other Senators have opening statements, they are most welcome.

[Prepared statement of Senator Pressler follows:]

PREPARED STATEMENT OF SENATOR PRESSLER

I am pleased to welcome the many distinguished witnesses to the Senate Commerce Committee. All of us are here today to discuss long overdue action to reform federal law on telecommunications markets. Our challenge is to overthrow the old regime of heavy regulation in these markets and replace it with a true free market system.

The burgeoning of new technologies and the recent growth of telecommunications industries in America is awesome. This sector now represents at least 10 percent of the U.S. economy. It would be a costly mistake, however, to be complacent about this success. Old laws and regulations that serve no reasonable economic or social purpose are holding back American telecommunications firms from creating more jobs, offering new products and services, and cutting costs to consumers.

Our most heavily regulated telecommunications industries are not gaining the kind of investment growth their freer counterparts in other countries are winning. Our own telecommunications investment markets are artificially closed to most potential foreign investment. Meanwhile we're seeing U.S. investment capital—even from some of our own telecommunications companies—go abroad to freer markets.

The power of the growing free markets abroad offers us a challenge: establish a true free market system for telecommunications in the United States.

Some still seem to think the impact of reform legislation is to change some of the boundaries of the old system of carved-out market enclaves. Some may even think it is worth halting reform legislation—thwarting establishment of a true free market system for telecommunications in America—because some government-guaranteed monopoly might be lost.

· I consider that the height of folly. The big players in the older, heavily regulated parts of telecommunications need to understand something fateful for them and their supposed rivals: If we all don't hang together, we'll all hang separately—in artificially weakened condition as competitors in the world economy.

The CHAIRMAN. I will ask our witnesses this morning to summarize their statements to 5 minutes. We will put your full statement in the record.

And we will have questions from a variety of Senators who are arriving at a variety of times this morning because of the caucuses that are going on or at least the caucus on one side. I don't know about what else is occurring this morning. But there are mark-ups in other committees.

So with that, I am going to call on Senator Hollings, the ranking member of this committee.

STATEMENT OF SENATOR HOLLINGS

Senator HOLLINGS. Thank you, Mr. Chairman.

I apologize to the colleagues and witnesses for being tardy.

I think the real point here is to once again flesh out what we can with respect to the basic differences. This bill involves, of course, every ramification of communications and computerization.

And with that in mind, you have got the newspapers, the broadcasters, the long distance, the cellular, the RBOCs, the burglar alarm, Dunn and Bradstreet. You keep on and on and on.

We were successful last year in getting a strong bi-partisan majority to agree to report a bill. And under the leadership of our chairman now, we hope to do the very same.

There is no rhyme nor reason if we cannot get that bill out. But you will find the jockeying for position. This town, just like this budget matter here, they treat it like spectator sport and who is on top.

With respect to communications, everybody figures they represent a certain entity and interest. And they want to get the best deal.

And with that in mind, you find that, for example, we passed a manufacturing bill with three-quarters of the U.S. Senate 4 years ago, Senator, bi-partisan.

And we said we were trying to deregulate. And the Bell Companies at that time said their primary interest, for example, was manufacturing.

So we all got together and said, "Look. There is no reason for the RBOCs with the billions that they have to be investing in New Zealand and Buenos Aires and Mexico. We want jobs. We want investments and advancements in telecommunication right here in this country."

So that—we said no longer than within a year the RBOCs should get into manufacturing and sooner if some of them are ready.

Now, comes the bill, and of course, some said, "Well, not for 3 years."

Well, we know a certain interest is not wanting competition.

And so they said, "Well, give us at least three more years to try to develop our almost monopolistic control."

So under the auspices of deregulating, we are re-regulating backwards from where we were 4 years ago.

These are the kinds of things that the distinguished Chairman and I and other Senators have to contend with. And we have to have hearings. Everybody wants to be heard. But I hope we can limit the hearings, Mr. Chairman, generally speaking, get to the main problems.

Our rural friends, they say, "We are happy. Leave us alone."

If we left them alone, it would be all right for a while. There is no inducement financially, really, to get into these rural areas. And some have taken the risk and succeeded and are serving.

But the rural areas are not, let us say, large enough to support more than one server in a sense. And if you left them alone then 3, 5, 10 years from now, they would be out of the information resolutions. There would not be any interconnection.

So we have a problem of trying to recognize the leadership given at the rural level and yet understanding that they cannot just be left alone. We have got to get competition there.

The RBOCs will hold on until death do us part to their monopoly. They are my best friends. I have worked with them very closely. But they have got no idea. And they will work us until the last minute.

And I think if we work this bill through, Mr. Chairman, passed it through the House and the Senate, and had a conference, they would have another notion because they like what they have got.

For example, in my area, it is growing. So they have got growing pains. And they do not want to have superimposed competition pains. So they want to just take care of the growing pains.

And they are busy enough there because they are down in Buenos Aries and in Mexico also. And so they have got enough problems.

So while they talk, articulate competition and deregulation, they are as happy as clams. It is hard for the Chairman and I and other Senators to get past this nonsense. But we are going to do it.

I think under Senator Pressler and his bill, that we can move forward. And I thank you very much.

The **CHAIRMAN**. Thank you.

Do any of our other colleagues wish to make an opening statement here this morning?

STATEMENT OF SENATOR BURNS

Senator **BURNS**. Mr. Chairman, I would just reiterate that the Chairman and the ranking member know that no subject—we have danced more with this subject than any subject in the world and never made it to the alter. But I think we might get it done this time.

So I have no opening statement but I look forward to working with all of you, everybody on this.

STATEMENT OF SENATOR ROCKEFELLER

Senator **ROCKEFELLER**. Chairman, I will just submit a statement for the record and hope, as I am sure that we all do, because this is such a monumental subject with the implications just beginning to unfold, most of the implications yet unknown to the American consumer, that we really can do this in a non-partisan way.

The **CHAIRMAN**. Thank you very much. Go right ahead.

[Prepared statement of Senator Rockefeller follows:]

PREPARED STATEMENT OF SENATOR ROCKEFELLER

I commend you, Chairman Pressler, Senator Hollings, and other members of this committee for continuing the hard work of this very complex task—restructuring the framework for the communications industry as it moves rapidly into the next century.

I also would like to express my belief that we made a very wise investment of time last year in crafting and revising S. 1822, which members of the Commerce Committee reported out by a strong vote of 18-2. The solid principles of that legislation—sustaining and advancing "Universal Service;" strong but fair measures to promote competition in all communications services; and the deregulation of competitive markets—are serving as the foundation for the bipartisan legislation that we are now trying to prepare for committee action this year. I am sure we all agree that actual competition is the key to genuine deregulation.

Mr. Chairman, I appreciate your assurances that you are seeking a truly bipartisan effort to produce legislation that will help foster and guide the explosive changes in telecommunications.

This legislation is incredibly important to American consumers and business. I am sure it can help promote the economic growth that the people of West Virginia are eager for, which makes me determined to be involved in this process.

And I believe the promising vision of an advanced telecommunications infrastructure lies not only in its potential to help public and private institutions prosper, but also in its capacity to improve how our children—along with adults—learn at school, in libraries and at home.

Because of the far-reaching impact this legislation will have, we cannot afford to let partisan politics creep back into the process. It is critical that we listen to one another, learn from the hearings planned by the Chairman, and work in the best faith for consensus. I know I have more to learn. Given the stakes of this legislative endeavor, truly working together looks like the best way to serve our own constituents and the national interest.

I look forward to continuing to work with you, Mr. Chairman, and my colleagues, on what I hope will be an effective bill in encouraging fair competition, safeguarding the public interest, and continuing to provide incentives for investment in the telecommunications networks of this nation. American industry and workers have reason to be very proud of what they have achieved in developing this incredible array of products and possibilities, and we need to respond with the changes in policy whose time have clearly come.

STATEMENT OF SENATOR HUTCHISON

Senator HUTCHISON. Mr. Chairman, yes. I would very just like to submit a statement for the record, but say that I was one of those that was really hesitant to get into deregulation because, as an outsider looking at Congress, I always felt like Congress got into deregulation and got into more regulation, more harassment and more problems.

But I am totally convinced that the technology has moved so far beyond the present regulatory structure that we must move forward.

And what pleases me about the draft that we have before us which I hope everyone will feel free to work on and have input into, but nevertheless, I think it is an effort to balance all of the competing interests with the goal of more competition.

And second, it attempts to take away regulatory enforcements if it is not absolutely necessary that we have those. So I think those are two very good goals.

And I think this industry, in particular, is going to be the job creator of the future for our country. So it is most important that we have competition and a good working environment to promote that.

And I thank you very much.

PREPARED STATEMENT OF SENATOR HUTCHISON

The telecommunications legislation that this committee is formulating will have long-term economic effect. The economic scope of the U.S. telecommunications industry has been estimated at several trillion dollars. The productivity potential in industry research and development, manufacturing and deployment is enormous; the industry will be one of the largest job creators in the next century.

We must "get it right"—that is, spur technological innovation and investment, develop new services and deliver them efficiently and cheaply to consumers. The aim of legislation pending in, the Senate Commerce Committee is to reform this framework to ultimately permit any vendor to offer any communications service to anyone, anywhere, using any technology. I commend the Chairman for moving ahead with a framework that achieves these aims through competition, not regulation.

The existing framework of telecommunications regulation emanates from statutes, court decisions, and Federal Communications Commission (FCC) and State public utility commission rules. This framework was originally developed in a monopoly environment and has received patchwork updates. As one could expect, technology now has galloped ahead of the regulatory framework. Technology has "converged" in such a way that the providers of almost any telecommunications service can now deliver all of them.

However, some potential market participants find themselves prevented from competing because of the statutory and regulatory framework. What regulators may permit, courts may prohibit; what some States permit, others do not. We need to re-write the rules and create a comprehensive framework for promoting competition. If we do so, competition in most areas will be a certainty and consumers will reap the benefits that competition brings in all markets where it is permitted to flourish: greater consumer choice and lower prices.

However, when necessary, we must also protect competition. There must be appropriate safeguards and transition mechanisms to ensure that no competitor is disadvantaged as a result of the monopolistic, highly regulated policies of the past.

The CHAIRMAN. Thank you very much. Senator Ashcroft.

STATEMENT OF SENATOR ASHCROFT

Senator ASHCROFT. Mr. Chairman, transitions are the most difficult but the most important aspects of our development. And this is a challenge in transition, how we move from regulation to competition, how we move from a narrow band of services to a very broad band of services.

And this is a serious matter of great challenge. And I look forward to working together with all of the members of the Committee to get it done and done well.

STATEMENT OF SENATOR PACKWOOD

PREPARED STATEMENT OF SENATOR PACKWOOD

Mr. Chairman, I hope we can pass a bill this year which ensures that every segment of the communications industry, whether it be long distance, cable or local telephone, will be able to compete in other markets. There is no point in trying any longer to regulate the communications industry because regulation cannot keep up with technology.

I favor what has been called a "Le Mans Start," a calendar deadline by which all markets shall be open for competition. Yesterday the WEFA Group reported that if Congress were to pass legislation that simultaneously opened all communications markets to competition on January 1, 1996 we would create 2.1 million new jobs by the year 2000. The study also found that delaying full competition by three years could cost 1.5 million new jobs by the year 2000.

Everybody says they are in favor of deregulating the communications industry. However, long distance companies, cable companies and others say we cannot open all markets at the same time because some companies have particular advantages over others. Long distance and cable have asked to be able to get into the local phone business before the Bell operating companies can get into their markets. I'm reluctant to do that. However I do agree that in order to get into the local telephone business long distance companies, cable companies and others have to be able to interconnect with the existing local telephone network.

Mr. Chairman, I am reasonably confident we can pass a reasonably good bill. As I have said on many occasions, the challenge before us is to pass a bill that is as deregulatory as possible.

By and large all of the deregulations of the last two decades have worked very well. I have not found one yet that did not benefit the consumer. Big and small competitors have also benefited. Our experience is not that the deregulated industry is dominated by a few giants, but rather that competitors come along and devise ways to run circles around the giants. Competition thrives. I am confident there is not going to be a loser in a heavy-weight fight between AT&T and the Bell operating companies—not AT&T, not the Bells and certainly not the consumer.

The CHAIRMAN. Thank you.

Our first panel consists of the Honorable Anne K. Bingaman, Assistant Attorney General for Anti-trust, Department of Justice; the Honorable Larry Irving, assistant secretary for communications and information, the National Telecommunications And Information Administration; and the Honorable Kenneth Gordon, the Chairman of the Massachusetts Department of Public Utilities.

I would ask witnesses if they could summarize their statements. We will place their entire statements in the record. I call on the Honorable Anne Bingaman.

STATEMENT OF ANNE K. BINGAMAN, ASSISTANT ATTORNEY GENERAL, ANTITRUST DIVISION, DEPARTMENT OF JUSTICE

Ms. BINGAMAN. Mr. Chairman, members of the Committee, it is a great honor to appear before this distinguished panel on such an important subject that has been the life work of the Antitrust Division of the Department of Justice for 25-plus years now.

We have labored in this as this Committee has. We are devoted to competition as the Chairman and other members of the Committee are. And let me recount briefly where we stand on this.

We believe, and the administration believes, that the role of the Congress is critical and vital and crucial to moving this country forward to the next phase in competition in telecommunications. As you know better than I, the Congress has been at loggerheads for a decade and over now.

This country needs your leadership. This country needs it now. It needs it this year. It needs legislation. It needs legislation that is comprehensive, that is national in scope, and that opens the local loop of the Bell Companies to competition.

If that is done, and if it is done properly, and if, in fact, there can be and is interconnection at all of the points in the network so that cable companies, long distance companies, entrepreneurs, any company, can access the local loop of what is now and still the Bell Company monopoly in the local network, we believe along with this Committee that this country can see an explosion of competition, lower prices that we have never seen before. We say this because we have done this once.

We took the first step by separating long distance from the local loop in the modified final judgment in 1984.

That was not a popular move. The Department of Justice led that. It led it under the succession of administrations. The Nixon Administration began the investigation of AT&T. The Ford Administration filed the case. The Carter Administration prosecuted it. The Reagan Administration, under my former law professor and Mr. Irving's, Bill Baxter, brilliantly settled it with the break up of AT&T.

It was not popular at the time as this Committee remembers. What we have seen is that competition works. It has worked in long distance. Consumers today have paid 50 percent less than they did in 1982 for long distance services.

We have seen fiber optic networks laid across the country. We have huge excess capacity in fiber optics, but only in the long distance segment, because that is where competition has worked. Sprint, MCI, AT&T and Wiltel have laid this fiber optic cable.

What we need now is competition in the last mile. We need competition in the local loop so that the digital network that we have across the country can be laid to every home in this country.

And we can leap-frog the rest of the world as we already have. We can export products. We can have lower prices. We can bring education, medical books, textbooks, the whole Library of Congress to the home of every American in the foreseeable future, if the Congress acts and acts now to bring competition to the local loop to open this up.

So the future is literally in the hands of this Committee. It is in the hands of the Congress. Jobs depend on it. Exports depend on it. The prices, the products available to American consumers depend on it.

As the Committee recognizes, it is a matter of the most profound national importance.

We in the administration stand ready to work with you closely and continually to achieve this goal because it is so important to the future of this country.

We commend the Chairman for his leadership, commend the ranking member for the leadership last year. And we stand ready to work with all of you at any time and in any way possible to make this happen for all Americans.

[The prepared statement of Ms. Bingaman follows:]

Department of Justice

STATEMENT

OF

ANNE K. BINGAMAN

ASSISTANT ATTORNEY GENERAL

ANTITRUST DIVISION

BEFORE

THE

COMMITTEE ON COMMERCE

UNITED STATES SENATE

CONCERNING

TELECOMMUNICATIONS REFORM LEGISLATION

PRESENTED ON

MARCH 2, 1995

Mr. Chairman and Members of the Committee:

I am pleased to be here today to testify on behalf of the Administration about the vital issue of telecommunications reform. I applaud this Committee and its leaders, Senator Pressler and Senator Hollings, for their attention and important effort to foster serious telecommunications reform. I understand that members of the Committee are formulating comprehensive legislative proposals, which are so far reflected in drafts.

The health and vitality of this important sector of the economy has received so much attention from this Administration not only because it will make a difference in the way our citizens live and work, but because it is critical to America's prosperity in the 21st Century. The key test for any telecommunications reform measure is whether it helps the American people by providing benefits to consumers and by spurring economic growth, including higher incomes and job creation. The Administration believes that the way to achieve those goals is through real competition. Real competition provides consumers with lower prices, higher quality and more choice — as the history of long-distance competition illustrates. Real competition also is critical to the continuing competitiveness of U.S.

companies, which will create jobs and power America's continued leadership as this sector grows at home and abroad. As the President's Council of Economic Advisers concluded last year, federal legislation along the lines urged by the Administration in its White Paper could add several hundred thousand new jobs here in three years.

The Administration's fundamental vision for the telecommunications future is simple to state, but breathtaking in its implications. Every company will be permitted to compete in every market for every customer. We want that day to come as soon as possible. We would be naive, however, if we expected an uncomplicated transition from the regulated monopolies that characterize many segments of the telecommunications industry to fully competitive markets. To paraphrase Thomas Jefferson, we cannot expect to be transported from monopoly to competition in a featherbed.

Vice-President Gore put it best at the Federal-State-Local Telecommunications Summit held earlier this year: "Competition is always better than monopoly. But monopoly power must never be confused with competition. Two enemies of competition are monopoly power and unwise government regulation. We must remember, after all, that the goal we seek is real competition. Not the illusion of competition; not the distant prospect of competition."

There is today, we believe, a broad, bipartisan consensus in favor of moving telecommunications policy out of the courts and into the statute books so that Congress, representing the public, can craft the kind of comprehensive framework for competitive telecommunications that the nation deserves. The Administration is eager to work with members of both Houses of Congress to achieve this important goal. Until passage of such legislation, the Department of Justice will move forward under the Modification of Final Judgment to promote local telephone competition as a basis for easing the restrictions on the Regional Bell Operating Companies. But I cannot emphasize enough that moving forward in court is a second-best alternative. Comprehensive, competition-promoting reform legislation is by far the better course for the country.

In the balance of my testimony, I would like to cover three areas:

- First, I would like to put the discussion of telecommunications competition into context, by explaining how we got here and how the nation has benefitted from the competition in telephone markets that has occurred thus far;
- Second, I would like to suggest why providing even greater competition in both telephone and cable television markets is critically important for American consumers and industry;

- Finally, I will identify the fundamental challenges that policymakers face in promoting telecommunications competition.

The Break-Up of AT&T and the Telecommunications Revolution

The telecommunications revolution -- the merging of voice, video and other data transmission and the proliferation of new telecommunications products and services -- has been one of America's leading technological and economic success stories. At bottom, the key reason is the economic climate of competition that nourishes the creative genius of scientists, engineers and businesses.

An indispensable element in freeing that creative genius to innovate and bring new products and services to market has been a public policy generally dedicated to promoting competition. Nowhere is this more evident than in the case of long-distance telephone services, where through the efforts over two decades of the Justice Department and Judge Harold Greene, and the work of the FCC, competition has made enormous progress. We should not forget, however, the hurdles that effectively slowed competition before the success in 1982 of the Justice Department's antitrust suit. Long after competition in long distance service and communications equipment became technologically and economically feasible, AT&T frustrated consumer choice and actual competition through abuse of its monopoly control over local networks.

This story is not merely a matter for the history books. It is a cautionary tale that illustrates the persistence of monopoly in telecommunications markets. And it refutes the unsubstantiated notion that telecommunication monopolies can only exist if the coercive power of government keeps out competitors. In fact, AT&T for many years proved itself quite adept, through use of its local monopoly, at keeping competitors out of the long distance and equipment manufacturing markets, in spite of the best efforts to the contrary of regulators, the Justice Department and the competitors themselves.

The Persistence of Monopoly

AT&T used the local monopoly to discriminate against competing long distance carriers in terms of the type, quality and price of interconnection with the local network, preventing most consumers from buying service at lower prices from AT&T's competitors and inconveniencing consumers who did. For instance, consumers who used a competitor had to dial 23 digits to complete a long distance call, while AT&T customers only had to dial ten or eleven digits. Similarly, consumers who preferred other manufacturers' equipment discovered that they could not connect that equipment to the local telephone network. Moreover, the Department found that AT&T's manufacturing subsidiary, Western Electric, was overcharging the Bell system for equipment. Because these overcharges contributed to the Bell Companies' rate bases, they had the effect of inflating the prices that captive ratepayers paid for phone service.

Competitors detected AT&T's anticompetitive conduct and fought it in the courts and before regulators. The result more often than not was one step forward, one step back -- incremental progress that rarely could keep up with AT&T's ability to find new ways of impeding access to the local networks or disadvantaging other equipment manufacturers. As long as AT&T controlled the strategic bottleneck of a local telephone monopoly, litigation and regulation could not hope to promote free competition in long distance and equipment markets or protect captive ratepayers from inflated prices.

Indeed, the problem was related partly to the nature of regulation itself. With regulation constraining rates and profits in the local market, AT&T had the incentive to use the local monopoly to increase profits in the long distance and equipment markets. As long as consumers had no choice of local service provider, structural separation that prevented the regulated monopolist from participating in the other markets was necessary to prevent the abuses that plagued the industry and thwarted competition.

Regulators and would-be competitors were not the only ones stymied by the problem of the AT&T telecommunications monopoly. The Justice Department sued AT&T twice, in 1913 and in 1949, before bringing the suit that resulted in the MFJ. Those first two efforts to protect competition in telephone markets ultimately failed, because the relief obtained was not comprehensive enough.

But the third time it worked. The case filed against AT&T in 1974 was a nonpartisan undertaking to vindicate the principle that underlies the antitrust laws and, indeed, our economic system: Open competition on the merits is superior to regulated monopoly. The Department began its investigation in the Nixon Administration, filed suit during the Ford Administration, then pursued the case through the Carter Administration and into the Reagan Administration, with AT&T fighting every inch of the way. AT&T ultimately came to terms with Assistant Attorney General Bill Baxter and agreed in 1982 to the entry of the consent decree that we now call the MFJ.

As you know, the structural separation of the local exchange from other telecommunications activities was the essence of the MFJ. It required AT&T to divest itself of its local exchange businesses, resulting in the creation of the seven Regional Bell Operating Companies, sometimes called the RBOCs or Bell Companies. These Bell Companies -- independent of each other and of AT&T -- retained local telephone monopolies within their respective regions, subject to the requirement that the Bell Companies provide consumers equal, nondiscriminatory access to the long distance company of their choice.

The complete divestiture of the Bell Companies from AT&T's long distance and equipment operations removed AT&T's ability to use the local monopoly to thwart competition in the long distance and equipment markets. The MFJ also removed the RBOCs' incentive to impede competition in those markets through its "line of business" restrictions, which continue to prohibit the Bell Companies from providing long distance services and from manufacturing communications equipment. These restrictions protect against the recurrence of the specific harm that the MFJ remedied -- use of the regulated local monopoly bottleneck to hurt competition in other markets.

The MFJ retained the historically complementary roles of the FCC and the Department of Justice. Since its creation in 1934, the FCC has had Congressionally assigned responsibility for establishing the "rules of the road" for the telecommunications industry. Therefore, after entry of the MFJ, the FCC established the specific rules for implementing the decree's equal access requirements and created a process by which consumers could presubscribe to their preferred long distance carrier, both vital to facilitating the competition made possible by the MFJ. The FCC has continued to help open the long distance and equipment markets to competition.

The Benefits of Competition

The MFJ has benefitted the country spectacularly. Separating the long distance market from the local monopoly has increased competition dramatically, as MCI, Sprint and hundreds of smaller carriers have vied with AT&T to provide long distance service to businesses and residences. The New York Times recently reported that in 1994 more than 25 million residential customers changed long-distance carriers -- spotlighting the MFJ's incredible success in bringing real choice to consumers. Residential long distance rates have fallen some 50 percent since the break-up. Because of these lower prices, Americans are communicating with each other, by phone, fax and computer, more than ever before. We are closer to each other and in better touch with each other, for business and pleasure, because of the MFJ and its benefits. The impact of this change cannot be measured, but it unquestionably is profound and has changed the nation for the better.

Improvements in quality have accompanied lower prices and increased output. The United States now has four fiber optic networks spanning the country, another by-product of competition. Incidentally, AT&T lagged behind its competitors in building a fiber optic network -- not surprising given that monopolists often are not the most innovative companies. These networks make possible all kinds of new services and enhance others, including the Internet. Similarly, businesses and consumers enjoy lower prices, more choice and better quality in communications equipment, as competition has eroded AT&T's power in that market and forced it to compete for customers.

In short, the MFJ has enabled the United States to maintain its technological leadership in telecommunications. Nations that have stuck to the old monopoly model of telephone services have fallen behind. That is why many are now trying to emulate us, rather than the other way around.

But we also should never lose sight of the fact that there is always room for more competition; line-of-business prohibitions should continue only as long as necessary.

The Need For And Benefits Of Even Greater Competition

Now is certainly not the time, however, for America to rest on her laurels. Much more needs to be done to promote competition in telecommunications. For instance, competition has a long way to go in video services. To be sure, consumers now have an unprecedented degree of choice in video programming, as the spread of cable technology has introduced competition with traditional broadcasting. But, with a few exceptions, cable television operators enjoy monopoly franchises in each locality.

These monopolies, however, are not "natural," and I am hopeful that their days are numbered thanks to technological advances. For example, a number of the Bell Companies have announced plans for upgrading their telephone networks to deliver video programming. Continuing advances in satellite television likewise promise a challenge to cable monopolies.

Competition also has yet to reach local telephone service. Here, too, technological innovation offers foreseeable challenges to monopoly control.

Just as telephone networks can be upgraded to provide video service, cable television systems are expected relatively soon to carry telephone traffic. In addition, wireless services such as cellular and specialized mobile radio, while currently relatively expensive, are growing rapidly throughout the country. The FCC has begun to auction off additional spectrum for yet another form of wireless communication, Personal Communications Services (PCS). Still, it is important to keep in mind that these alternatives are largely prospective. They are not yet widely available and affordable, and it is not yet clear when they will be. And even consumers who eventually choose to replace their local telephone company with a wireless or a cable-based alternative will continue to need to interconnect with the old phone company to complete most of their calls. The kind of competition that develops depends on the terms of that interconnection.

Technology by itself will not be enough to break down the barriers to competition in video and voice, for the simple reason that not all of the barriers are technical. Some of the most formidable, in fact, are legal and economic.

Policy Challenges Ahead

Thus, the challenge confronting all telecommunications policymakers -- in Congress, in the Executive branch, and the states -- could not be more clear: To encourage greater competition throughout the telecommunications industry in a way that does not distort the marketplace or pose dangers to consumers. In particular, as long as the RBOCs have a monopoly over local phone service, they will have -- in the absence of the MFJ line-of-business restriction or adequate safeguards provided for by legislation -- the incentive and the ability to hurt competition in other markets through cross-subsidization and discrimination.

Ultimately, effective competition in local telephone markets will provide the best protection against the RBOCs' ability to leverage their local telephone monopolies into other markets. Until local telephone markets are competitive, entry tests and structural safeguards -- such as separate subsidiaries that help regulators analyze pricing, cross-subsidization and discrimination -- are necessary to ensure that local telephone customers are not charged with the costs of long-distance service and manufacturing and that the other markets are not distorted by the RBOCs' local monopoly.

Promoting Competition in Local Telephone Markets

Let me emphasize that the point is not how to keep the RBOC's out of other markets, but rather how to let them in as quickly as possible without endangering competition in those other markets. The way to achieve that goal is to promote real competition in the RBOCs' own local markets. At this point, there appears to be a growing consensus about the steps that are appropriate for fostering competition in the local telephone markets. First and foremost, of course, legal and regulatory barriers to competition must be removed. Comprehensive federal legislation is uniquely capable of accomplishing that step.

Other steps that are supported by the Administration and that are becoming widely agreed upon include:

- implementation of arrangements for mutual compensation and interconnection that allow entrants to compete on a level playing field with the RBOC;
- implementation of unbundling and other arrangements for resale of local services on terms that make competition in local markets feasible;
- implementation of local dialing parity;
- implementation of number portability so that customers can switch local service providers as easily as they already can switch long distance carrier; and
- implementation of arrangements for access to poles and conduits.

The Administration strongly supports the inclusion in legislation of such steps to open the local loop. Likewise, the Administration supports legislation that would give the FCC the responsibility for formulating, within a specified time after passage, rules for the implementation of steps to open the local loop. Although it is appropriate for states to have a role in actual implementation -- since one size may not fit all -- there still needs to be a national policy creating the basic framework.

The Administration supports provisions that would apply unbundling and interconnection requirements only to carriers with market power. Because the threat that concerns us arises from market power, it would be needlessly regulatory to apply requirements in the absence of market power. The Administration also believes that the RBOCs should be permitted in comprehensive legislation to offer "incidental" long-distance service to facilitate the provision of wireless, cable and certain other services, along the lines provided for in last year's bill, S. 1822.

Even though there is broad agreement on the necessity of these steps, however, there remains the question of when the Bell Companies should be allowed to offer long distance services and on what terms. At one extreme is the idea that the Bell Companies should not be allowed to foray into other markets, such as long distance, until after they experience enormous losses of market share in the local markets over which they now exercise monopoly control. This approach, however, could sacrifice for too many years any benefits in added competition and innovation that the RBOCs might be able to bring to the long distance and other markets. It also conflicts with our fundamental vision of allowing every company to compete in every market.

At the other extreme is the idea that restrictions on the RBOCs should be lifted on a certain, preordained date, no matter what actually happens in the marketplace. By assuming without any basis in experience that competition eventually will come to currently monopolized markets, this approach would seriously endanger the progress of the last ten years in opening the long distance market to competition.

We think neither extreme is correct. We support the middle ground of competition. In our view, it would be too great a risk to competition to let the RBOCs enter the long distance market immediately upon the first halting steps toward meaningful local competition. Entry should come only after an assessment made within 180 days of application in the market under a standard such as Section VIII(C), a responsibility that should be delegated to the Department of Justice, the agency that has applied that standard for many years.

Although the steps that I listed should foster the emergence of local competition, it would be unwarranted to assume that competition will in fact emerge or how fast it will emerge. On the one hand, the steps may not be sufficient. On the other hand, competition may flourish before some are fully accomplished. There simply are no guarantees as to whether and how fast local competition will develop. By applying this market-based test for long distance entry, we increase the incentive to open up local markets to real competition quickly and effectively.

The ultimate efficacy of these steps depends on the resolution of dozens and dozens of complicated implementation issues. To say that unbundling must take place, for example, begs the questions of the price of the unbundled network elements, the relation between those prices and the retail price of the bundled service and what sort of volume discount structure can be applied to either set of prices. The answers to these questions in turn will determine the marketplace effectiveness of the unbundling.

Some legislative proposals contemplate requiring resolution of implementation issues primarily through private negotiations between the RBOCs and would-be interconnectors, hopefully numbering in the hundreds and even thousands, with ultimate review by state commissions on a case-by-case, issue-by-issue to resolve disputes. Although the *option* of private agreement on interconnection is appropriate, we believe it would be a mistake to place primary reliance on such a mechanism and attempt to require it. It would be a lawyer's dream, replacing a unified, national approach with dozens or even hundreds of negotiations and administrative and perhaps court litigation in each state, each addressing new and complex issues. And if the fragmented negotiation approach is coupled with automatic RBOC entry into long distance on a fixed date, in the midst of all this will be a clock ticking inexorably toward RBOC long distance entry, without regard to the emergence of local competition.

The complexity of these implementation issues is exacerbated by the tremendous leverage that the RBOCs as monopolists would bring to any negotiations on interconnection terms. They can in myriad ways favor certain classes of competitors or individual competitors at the expense of others. They can resolve issues that matter to certain competitors and not others since companies have different needs. Smaller competitors in particular could have a difficult and expensive time negotiating and taking appeals.

The underlying point is that we cannot assume that taking some series of specified steps will result inevitably in the development of local competition. The real test will be what is happening in the marketplace itself: Have competitors been able to enter? Are they able to serve a variety of customers in the geographic area that the RBOC seeks to serve? Is the availability of such competing service expanding? Are competitors encountering significant barriers to such expansion?

The policy should not be a test based on market share, but a judgment, based on market facts, whether the RBOC entry presents a substantial possibility of impeding competition in other markets. The responsibility for making that judgment should be assigned to the Department of Justice, based on the expertise in and understanding of competition in telecommunications markets that we have developed over the quarter of a century since the beginning of the AT&T investigation. Additionally, the FCC should review proposed entry under a public interest standard, based on the expertise and understanding of telecommunications that it has developed since its creation in 1934.

Legislation that does not include such a review of actual market developments risks putting the RBOCs' incentives entirely in the wrong place -- encouraging them to obstruct and delay the emergence of meaningful competition until the gun sounds to allow them to race into other markets. Then, still enjoying the advantages of a monopoly over local service, they would be in a position to reduce rather than increase competition in those other markets.

A penalty scheme alone may not appreciably change these incentives. Such a scheme entails a considerable amount of uncertainty as to whether there would be sanctions imposed and, if so, how significant penalties would be. The balance of uncertain high penalties against the certain and enormous financial benefit of keeping the local loop closed illustrates that the RBOCs retain the incentive of maintaining their control of local telephone. Moreover, given that the underlying requirements may be very qualified or worded in the negative, it may be difficult to prove a violation under any conceivably reasonable standard.

This is not to say that penalties should not be available to the FCC and to state regulators for failure to comply with interconnection requirements. It is to say that the stick of penalties is an inadequate substitute for the carrot of conditioning RBOC entry into long distance on the development of local competition. An excessive reliance on penalties would spawn more litigation and less interconnection.

If, on the other hand, the RBOCs must demonstrate to the Department real marketplace facts before they are allowed into long distance and to the FCC that it is in the public interest for them to enter long distance, they have incentives to cooperate in the opening of the local loop. The consideration of RBOC applications for entry by the two agencies, of course, should be simultaneous and subject to specified time constraints -- such as the 180-day period provided in the legislation last Congress -- in order to avoid unnecessary delay and uncertainty.

This approach enjoyed widespread, bipartisan support last year. The legislation that this Committee reported out on a 18-2 vote included an entry test to be applied by the Department of Justice, as did the bill passed by the House with more than 420 votes. A judicious combination of carrots and sticks is the best way to achieve our common goal of providing consumers the benefits of competition rather than the protection of a regulated monopoly.

Let me add, however, that omitting a market review from reform legislation does not mean that review will not occur. It means, rather, that such review will occur in the form of scores of AT&T-type antitrust suits filed in courts across the country. Resources that should be devoted to building the NII will be diverted to piecemeal litigation, which quite possibly will yield inconsistent results in the end -- assuming such litigation does end. That is why the Administration strongly supports a comprehensive national approach that takes advantage, in advance, of the Department's two and half decades of intensive experience of assessing competition telecommunications markets.

With regard to RBOC entry into equipment manufacturing, as opposed to long distance, there are a number of proposals. The dialogue on this issue is constructive in reaching our ultimate goal of allowing RBOC participation without threatening the burgeoning competition that exists in this segment of the industry. The Administration supports RBOC entry into manufacturing as long as it is accompanied by appropriate safeguards, including a strong requirement for use of a separate subsidiary. The Administration believes that the RBOC monopoly business should be separated from other RBOC businesses, but not that there need be multiple separate subsidiaries. The Administration also has supported a notification-

and-waiting-period procedure under which an RBOC would submit relevant information about its proposal to the Department of Justice, which could investigate and sue to enjoin the proposed entry.

Promoting Competition in Video Services

Local telephone is not the only market in which reform can replace regulated monopoly with open competition. Legislation should encourage competition to cable television from other firms and technologies, which will reduce the market power that existing cable operators maintain in their markets throughout the country. Statutory and regulatory restrictions that prevent such competition should be removed, but in conjunction with appropriate safeguards and removal of all actual and effective legal barriers to cable company competition for local telephone service (and promulgation by the FCC of interconnection requirements). We encourage legislation that allows telephone company provision of video programming in their local service area upon removal of local telephone entry barriers and promulgation of interconnection requirements.

We recognize that the local telephone companies have challenged, with some success, the prohibition on providing video programming in their local service areas in court, even while enjoying, in most instances, continued protection of their local telephone monopolies from competition by cable operators. Nevertheless, comprehensive and balanced legislative reform with appropriate safeguards -- not piecemeal litigation -- is the fairest, most sensible and most orderly way to move forward.

The Administration endorses inclusion of provisions in the legislation that would prohibit telephone and cable television companies from acquiring each other within the same service territory. Public policy should promote competition between methods for delivering telecommunications services, and the existence of "two wires" going to each home remains crucial at this time to such competition. For this reason, the Administration believes that for a limited time there should be a general prohibition on mergers in the same service territory, subject to certain limited exceptions, such as for rural areas. Any exception should be subject to ordinary antitrust review. We look forward to working with the Committee on this issue.

Conclusion

The time has come to do what only effective legislation can accomplish: Move telecommunications policy out of the courtroom and into the hands of the two expert agencies charged with protecting the broad public interest in telecommunications (FCC) and competition in particular (DOJ, which helped launch the telecommunications revolution with its suit against AT&T).

The Administration looks forward to continuing to work with the Congress in a bipartisan fashion on an expeditious basis to provide the fair and competitive environment for the telecommunications industry that its participants and consumers deserve. The time to pass legislation is now. The nation needs a legal framework governing the telecommunications industry that promotes open competition as vigorously as possible. Removing existing legal barriers to entry in various markets is essential, but we should not ignore the lessons of history in this vital sector. Truly effective competition requires a truly level playing field, where no competitor is able to use its monopoly or market power in one market, such as local telephone services, to disadvantage competition in other markets. Ultimately, competition, not regulation -- and certainly not unfettered monopoly -- will provide the best guarantee of better quality, lower prices, more jobs, expanded export opportunities and more rapid innovation in the telecommunications industry.

The CHAIRMAN. Mr. Irving.

STATEMENT OF MR. LARRY IRVING, ASSISTANT SECRETARY FOR COMMUNICATIONS AND INFORMATION, NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION, DEPARTMENT OF COMMERCE

Mr. IRVING. Thank you, Mr. Chairman and members of the Committee. And I thank you for this opportunity to testify before you today on this issue of telecomm reform.

We believe the Congress has the opportunity this year to enact legislation that will open all telecommunications markets to vigorous competition, produce clear, flexible and limited government regulations, and ensure that competition is robust and fair.

By promoting competition, as my colleague Ms. Bingaman has stated, we can create jobs and provide consumers with lower prices, higher quality and greater choice.

Mr. Chairman, it is equally important, of course, that any legislation maintain our nation's historic commitment to universal service.

Several States already have adopted innovative regulatory reforms. And those reforms can serve as models for the benefits that competition can bring to consumers.

But we cannot build this system one State at a time. We need a national vision and a national system. I would like to offer, as briefly as possible, the views of the administration on legislative reform proposals currently being discussed in this body.

The draft bills propose reforms in many areas that we agree need to be addressed. They include, for example, lifting of the cable/teleco ownership ban, preempting State barriers to competition in local phone service, reexamining broadcast ownership and spectrum rules, and providing a process for reviewing the need for continuing regulation.

We support these efforts and hope to have the opportunity to work with this Committee on the details of these proposals.

And I would like to focus my remarks this morning on five areas, local competition, BOC entry into long distance and manufacturing, universal service, cable regulation and foreign ownership.

A critical area for reform is ensuring local competition. We share the goal of promoting local competition and simultaneously minimizing government regulation.

But we do have concerns about the proposed negotiation process. There are legitimate questions about whether private negotiations, even with credible threat of government intervention, is the best method for expeditiously facilitating completion of interconnection and unbundling agreements.

Another critical provision in your draft bill is the date certain provisions, 3 years after enactment for elimination of the AT&T consent decree.

Assistant Attorney General Bingaman in her testimony has outlined the administration's reservations about this provision.

I will add only this: A date certain undoubtedly will erode the BOC's incentives to conduct and conclude interconnection negotiations expeditiously.

We share this Committee's commitment to the implementation of new universal service policies for the information age.

And we agree, specifically, with the need to establish a Federal-State joint board, particularly the principles that should form the basis for the FCC's and the joint board's efforts; just, reasonable and affordable rates; a coordinated universal service funding system; equitable and non-discriminatory contributions; and improved consumer choice.

I would also like to address some concerns we have with respect to language that would eliminate government regulation of cable television rates beginning 1 year after enactment.

The 1992 Cable Act rests on the sound principle that rate regulation will cease immediately in markets where there is effective competition.

The years following passage of the 1984 Cable Act demonstrated, we believe, the perils of deregulating on the promise of potential competition rather than the existence of actual competition.

It is not to say that the administration opposes any changes to the 1992 Act. The administration has indicated a willingness to work with Congress and industry to minimize the burden of government regulations.

We cannot and will not, however, support deregulation of monopolies before the arrival of actual competition. As long as monopolies continue to exist, consumers must be protected.

And we also agree with the Committee's interest in reexamining Section 310(b) to help foster open telecommunications markets.

Just last weekend, the Vice President, at the G–7 Conference noted that the administration joins many in Congress in supporting lifting of 310(b) in markets that also open their telecommunications markets to U.S. companies.

We suggest that a determination of whether this goal has been achieved for a particular country should be made by the executive branch.

This would be an interim step until multi-lateral talks with other nations resulted in reciprocal agreements on access worldwide.

We would not, however, move to lift the restriction with regard to broadcasting at this time. The administration believes we should not be too hasty in lifting restrictions on the amount of foreign influence over or control of our broadcast licenses, particularly in light of the editorial discretion that we repose in broadcasters.

Mr. Chairman, let me close by reaffirming my central message. Both your reform proposal and that put forth by Senator Hollings have considerable merit.

The administration does have some concern about specific provisions. But there is much with which we agree.

Working together, Congress, the administration, other interested parties, particularly affected industries, can forge telecommunications reform policy promoting objectives to which we all are committed, competition, investment, consumer welfare, reduced government regulation and universal service.

And I thank you, again, Mr. Chairman and members of this Committee, for the opportunity to testify. And I will be delighted to answer any questions.

[The prepared statement of Mr. Irving follows:]

TESTIMONY OF LARRY IRVING

ASSISTANT SECRETARY FOR COMMUNICATIONS AND INFORMATION
U.S. DEPARTMENT OF COMMERCE

ON

TELECOMMUNICATIONS POLICY REFORM LEGISLATION

BEFORE THE COMMITTEE ON COMMERCE,
SCIENCE AND TRANSPORTATION
UNITED STATES SENATE

MARCH 2, 1995

Mr. Chairman and Members of the Committee:

INTRODUCTION

Good morning. Thank you for this opportunity to testify before you today on the issue of telecommunications policy reform. The Administration shares your interest in promoting the advancement of a modern telecommunications and information infrastructure in a procompetitive manner that benefits all Americans.

Congress has the opportunity this year to enact legislation that will open all telecommunications markets to vigorous competition, produce clear, flexible, and limited government regulations to ensure that such competition is robust and fair, and link the introduction of new products and services to producer initiative and consumer demand. Such legislation, in short, can unleash the promise of the Information Superhighway for all Americans.

The key test for any telecommunications reform measure is whether it helps the American people. Legislation should provide benefits to consumers and spur economic growth by ensuring competitive telecommunications markets. Competition will provide consumers with lower prices, higher quality, and greater choice. The continuing competitiveness of U.S. companies will create jobs

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as the telecommunications sector grows. Only competition -- not monopoly -- will enable us to achieve these goals.

The Administration looks forward to working with you and your Committee to ensure that a complete, integrated set of telecommunications reform proposals moves forward.

THE NEED FOR LEGISLATION

An advanced information infrastructure will transform everyday life for every person in the United States in the near future. Projects are underway that are changing the way we work, educate our children, receive medical services, and interact with our family and neighbors. For example, in your home state of South Dakota, Mr. Chairman, the Rural Development Telecommunications Network is connecting 47 schools to networks and providing distance learning programs.

It would be a mistake, however, simply to "let nature take its course" and allow change to proceed under the existing legal regime, whose underlying structure was established 60 years ago. This is true for three essential reasons.

First, we need legislation to promote innovation and competition. Information transmission increasingly is the life blood of all our industries. Archaic rules or entrenched monopolies that inappropriately retard innovation by telecommunications firms are detrimental to the international competitiveness of the private sector, inhibiting industrial productivity and job creation. Legislation that reforms these outdated structures and supports entry of new competitors will enhance competitiveness and spur the creation of good new jobs.

Second, the existing regulatory structure discourages private investment. It places artificial barriers on firms that, due to technological advances, are now in a position to be competitors. The regulatory structure has created an uneven playing field that favors some companies or industries over others. This, in turn, inappropriately skews the growth of industry sectors and retards the development of the National Information Infrastructure (NII). Accordingly, legislation is needed to eliminate such unwarranted regulatory disparities.

Third, we need to be sure that our telecommunications policies are fully responsive to the needs of the American people as a whole, and, in particular, poorer and disadvantaged Americans. As Secretary of Commerce Ronald H. Brown has emphasized, we cannot "become a nation in which the new information age acts as a barrier, rather than a pathway, between Americans" -- a nation divided between the information rich and the information poor. Yet, while the universal provision of "plain old telephone service" has long been a national goal, the existing regulatory structure may not be sufficient to ensure that all Americans benefit from the broader range of information services that will become available under the NII. Accordingly, legislative reform is urgently needed to address this shortcoming. I will have more to say about the Administration's views on universal service.

Several states have already adopted innovative regulatory reforms that seek to open up local competition. These states serve as models for the benefits that competition can bring to consumers. But we can't build a system one state at a time. We need a national vision and a national system.

THE SENATE'S LEGISLATIVE REFORM PROPOSALS

I would like to offer, as briefly as possible, the views of the Administration on the Legislative reform proposals currently being discussed in the Senate. I commend the Committee for tackling these difficult issues.

The draft bills propose reforms in many key areas that we agree need to be addressed. These include, for example, prompt lifting of the cable/telco crossownership ban, preempting state barriers to competition in local phone service, reexamining broadcast ownership and spectrum rules, and providing a process for reviewing the need for continuing regulation. We support these efforts and hope to have the opportunity to work with the Committee on the details of these proposals.

This morning, I would like to focus my remarks on five areas: (1) local competition, (2) BOC entry into long distance and manufacturing, (3) universal service, (4) cable regulation, and (5) foreign ownership.

Local Competition

A critical area for reform is ensuring local competition. Your draft bill, Mr. Chairman, would permit the details of interconnection and unbundling -- implementation of which is crucial to the development of local exchange competition -- to be determined in negotiations between incumbent local exchange carriers and prospective entrants.

While we share your goal of promoting local competition, while simultaneously minimizing government regulation, the Administration has concerns about how effective the negotiation process will be. And here, Mr. Chairman, experience is instructive. The local interconnection agreements that have been finalized to date are, in most cases, the fruit of difficult, contentious bargaining processes that have exceeded significantly the four-month period contemplated in your draft bill. The recently-announced agreement between NYNEX and Metropolitan Fiber Systems -- which some hail as an exemplar of the negotiation approach -- was two years in the making. In short, there are legitimate questions whether the proposed private negotiations -- even with a credible threat of government intervention -- are the best method for expeditiously facilitating completion of the interconnection/unbundling agreements essential to the growth of local exchange competition.

In the five years since New York State first mandated local exchange interconnection, agreements have been finalized in a number of other states as well. These pacts provide strong evidence of the interconnection terms and conditions that are acceptable to both local exchange carriers and their potential competitors. The FCC, with assistance from the States, could use those agreements as the model for uniform, nationwide, minimum regulations concerning interconnection and unbundling. The Administration believes that nationwide regulations would have the clear advantage of informing local competitors everywhere of their basic rights and responsibilities. This would make it easier and quicker for new companies, particularly smaller ones, to enter the local exchange markets and deliver the benefits of competition to consumers.

BOC Entry into Long Distance and Manufacturing

In addition, Mr. Chairman, the negotiation approach to interconnection/unbundling in your draft bill will require incentives to ensure that parties negotiate in good faith. This brings me to another critical provision in your draft bill: the provision setting a date certain -- three years after enactment -- for elimination of the AT&T Consent Decree and guaranteed BOC entry into long distance and manufacturing. Assistant Attorney General Bingaman has ably outlined the Administration's reservations about that provision. I will add only this: a date certain will undoubtedly erode the BOCs' incentives to conduct and conclude interconnection negotiations expeditiously.

Your draft bill recognizes this fact and attempts to mitigate the potential consequences by authorizing stiff penalties in the event that the BOCs do not comply fully with their interconnection/unbundling requirements. However, the very severity of those penalties may reduce the likelihood that they are ever imposed. More importantly, the threat of sanctions for bad conduct is, in general, a poor substitute for strong incentives for good conduct.

As Assistant Attorney General Anne Bingaman has outlined, the better approach is to establish the preconditions for BOC entry, including a careful assessment by the Department of Justice of the state of competition in the local exchange market. The Administration will work with the Committee to develop an approach that meets this objective while giving the BOCs incentives to comply with their interconnection and unbundling obligations.

Universal Service

The Administration shares the Committee's recognition that implementation of new universal service policies for the information age is of profound public policy significance. We are pleased that both the Chairman's and Senator Hollings' proposals seek to ensure universal service.

The Administration supports efforts to develop a new concept of universal service that will serve the information needs of the

American people in the 21st century. Indeed, the full potential of the NII will not be realized unless all Americans who desire it have easy, affordable access to advanced communications and information services, regardless of income, disability, or location.

We welcome the continued bipartisan Congressional support for universal service. A major concept on which all agree is the need to establish a Federal/State Joint Board to make recommendations to the FCC on both the evolving definitional and funding elements of universal service. There is also agreement on many of the principles that should form the basis for the FCC's and the Joint Board's efforts. These include:

- providing quality services at just, reasonable, and affordable rates;
- establishing a coordinated Federal and State universal service funding system administered by an independent, non-governmental entity;
- requiring telecommunications services providers to contribute to the preservation and advancement of universal service on an equitable and nondiscriminatory basis; and
- permitting consumers to exercise choice among telecommunications carriers.

Such a broad framework of general principles can form the bedrock upon which the FCC and the states can establish universal service policies for the future. The Administration wishes to work closely with the Committee on that framework.

We also hope to work with the Committee on legislative provisions to facilitate the connection of all our classrooms, libraries, hospitals and clinics to the NII by the year 2000. Universal access to the NII will promote U.S. competitiveness, create new jobs, and ensure that all citizens realize the benefits of the information revolution. We want to work with the Committee in exploring all possible methods of accomplishing this goal.

Cable Television

I would also like to address some concerns the Administration has with the draft bill with respect to the language that would eliminate government regulation of cable television rates beginning one year after enactment. Mr. Chairman, the Administration believes that this approach would not serve the public interest.

The 1992 Cable Act rests on the sound principle that rate regulation will cease immediately in markets where there is effective competition. However, today fewer than 1 percent of households nationally have Direct Broadcast Satellite service and virtually none have a choice of wired video provider. Without the disciplining effects of such competition, deregulation will rarely, if ever, benefit consumers. And while it is true that competition in the video marketplace is increasing with the advent of Direct Broadcast Satellite service and the prospect of video dialtone, it remains to be seen whether and to what extent these potential competitors will become actual alternatives to entrenched cable systems. The years following passage of the 1984 Cable Act demonstrated the perils of deregulating on the promise of potential competition rather than the existence of actual competition. The Administration believes that we should not repeat that experience.

That is not to say that changes to the 1992 Cable Act should not be made. I understand that the National Cable Television Association has proposed a number of amendments to that Act's definition of "effective competition," which would deregulate cable operators more quickly with the advent of competition in local markets. The Administration has indicated a willingness to work with Congress and industry to minimize the burden of government regulation without sacrificing cable subscribers. We will not, however, support deregulation of monopolies before the arrival of actual competition. As long as monopolies continue to exist, consumers must be protected.

Foreign Ownership

We also agree with the Committee's interest in reexamining Section 310(b) to help foster open telecommunications markets worldwide. As reflected in the Vice President's speech at the G-7 Conference, the Administration joins many in Congress who support lifting the Section 310(b) restrictions for countries that have also opened their telecommunications markets to U.S. companies. We suggest that a determination of whether this goal has been achieved for a particular country should be made by the President, based on the advice of the appropriate Executive Branch agencies. This would be an interim step until multilateral talks with other nations resulted in reciprocal agreements on access.

Clearly, in revising Section 310(b), we must recognize that many countries are in the process of change, but progress will be varied among countries and will evolve over time. We do believe, however, that once a critical mass of countries with open telecommunications markets is achieved, the momentum and demand from both national and multinational companies, as well as global alliances, will create a powerful force to push the remaining countries toward competitive and open markets.

We would not, however, move to lift the restriction with respect to broadcasting at this time. The Administration believes that we should not be too hasty in lifting restrictions on the amount of foreign influence over, or control of, broadcast licenses due to the editorial discretion of broadcasters over the content of the transmissions.

The Administration thus welcomes the opportunity to work with the Congress to reform 310(b) to help achieve our mutual goals of continuing to open telecommunications markets around the globe to facilitate participation by U.S. companies. This will help boost economic growth, create jobs, and ensure that U.S. companies remain world leaders in the global telecommunications marketplace.

CONCLUSION

Mr. Chairman, let me close by reaffirming my central message. Both your reform proposal and that put forth by Senator Hollings have considerable merit. Although the Administration has concerns about specific provisions, there is also much with which we agree. I remain convinced that if we work together, Congress, the Administration, and the many other interested parties can forge telecommunications reform policy that promotes the objectives to which we are all committed -- competition, investment, consumer welfare, and reduced government regulation. Thank you again for the opportunity to testify, and I will be happy to answer any questions.

The CHAIRMAN. Mr. Kenneth Gordon, Chairman of the Massachusetts Department of Public Utilities.

STATEMENT OF MR. KENNETH GORDON, CHAIRMAN, MASSACHUSETTS DEPARTMENT OF PUBLIC UTILITIES

Mr. GORDON. Good morning, Mr. Chairman, members of the Committee.

I am appearing this morning on behalf of the National Association of Regulatory Utility Commissioners. We appreciate this opportunity to comment.

I would like to begin by commending the Committee for the dispatch and effort that has already gone into work in this area. We, too, hope that legislation will be successfully achieved this term.

States and State regulators which, just a few years ago, were regarded as obstructions to competition by some, are now in the forefront of creative reform in this industry.

New York, Washington, Illinois and Maryland and, I am happy to say, Massachusetts as well as others have adopted more flexible regulatory approaches and opened entry into these markets to a degree that was just unimaginable a few years ago.

In this process, we are seeing exactly the kind of creative Federalism that has often given a bow but too often overtaken by the desire to move ahead quickly to a single solution.

We need to recognize in this process that each State's market is different and that the States are trying to move in response to these markets. As a result, not every State is moving at the same pace.

And different States are adopting different approaches to competition. But we are learning from that process and from each other.

In my judgment, the States have led the competitive process in the last few years. And this is as it should be as the focus of competition shifts from the inter-exchange market and the equipment market to the local exchange once thought to be the ultimate monopoly.

We at the NARUC agree fully that regulatory and legal barriers to competition at the local level should be removed. This is the linchpin of today's telecommunications policy. It is important for foreign as well as domestic reasons.

The other day, Assistant Attorney General Bingaman had some of us State regulators over to her office.

And she said while we were there, "We are the competition people, not the regulators."

Those of us in the States surely will regulate where we have to. But we think we are the competition people also; in fact, so much so, in the case of telecommunications that a little less than a year ago the NARUC took an action which I think is unique in our history.

We acknowledged formally the legitimacy of preempting State limitations on the ability of new entrants to participate in telecommunications markets.

As I said, we are the competition people. We do believe that we have to, at least for the time being, retain authority to set terms and conditions in order to give effect to the strong stake that we have in making sure efficient competition and effective competition develops.

It will be, in large part, State regulation that provides the underpinning.

Second, policies designed to assure that universal service is sustained in ways compatible with competition can and should be dealt with by the same State authorities that are overseeing that process.

I believe that the goals of universal service can be sustained in an increasingly competitive environment. But it needs to dovetail with the competitive approach in each State. And these processes are not identical nor do they have to be.

We also need to be able to set rates in pursuit of a fair and reasonable transition to competition. I am talking about the need to protect customers and the transition process to competition at the same time.

Several years ago, the Massachusetts Department of Public Utilities recognized the possibility of local competition and determined that our particular rate structure was not likely to be compatible with a competitive environment.

And so we began a process, still underway, of reducing some rates and raising others, both to facilitate the emergence of local competition and to ease the burdens on customers during the transition period.

I mention this experience not to be parochial but to suggest that open entry policies are more likely to bear fruit if States retain the freedom to both manage and accommodate the process.

In Massachusetts today, we have four carriers with local service tariffs on file in addition to Nynex, one of them contemplating residential offerings.

Just and reasonable rates extend to interconnection. Competitive carriers are also customers of the traditional service providers.

And we recognize that the terms and conditions of interconnection are a critical complement to open entry policies. But as in the case of other rates and conditions, States need to retain authority and flexibility in setting the specific parameters under which the interconnection takes place.

Comparability, efficiency and competitive parity will not be found in a one-size-fits-all approach. An increasing number of services can already be classified as competitive.

And we agree that the States, as well as the FCC, should have the ability to modify or even forebear from regulation when a provider lacks significant market power.

One last regulatory flexibility issue, alternative regulation: Price regulation, price gaps, rate gaps, revenue sharing, rate-based stay outs and a host of other variations that break away from cost-based regulation have been adopted by or are under consideration by almost every State.

Each is different. Each one tries to fit that State's needs, and even different companies' needs within the same State.

This ground, while certainly not unplowed, has not yet provided us with enough experience to decide which approach works best, which details are critical and which are not. A rigid mandate for price regulation could curb useful current experiments and foreclose others entirely.

The level of activity now underway in the States strongly suggests that no mandate is, practically speaking, necessary.

A word about universal service: Whatever its faults, the current regulatory framework led to the highest levels of penetration in the world. Maintaining that penetration, even as we take advantage of competitive opportunities is and will remain an important goal of State regulators.

We acknowledge the legitimacy of establishing a basic level of universal service below which no State should fall.

The task we all have is to retain the goals we have pursued and achieved under monopoly while opening the market to new players and taking advantage of new opportunities.

The NARUC believes that carriers engaged in interstate or foreign communications should contribute to any Federal program deemed necessary for the achievement of universal service goals, and that carriers engaged in intrastate communication should contribute to any State programs.

We oppose Federal collection and management of intrastate funds. Indeed, believing as we do that State officials are likely to have a better grasp of their own citizens' needs than the Federal bureaucracy, the administration of universal service assistance from whatever sources derived may better be put to use at the State level.

NARUC is currently exploring an approach to universal service funding that incorporates a State block grant concept.

A brief word in conclusion about the relationship between the economic regulatory structures that I have described and the critical goal of advanced infrastructure development: The goal the framework described, indeed, I think by all of us, is a market open to competition with fair opportunities and flexible regulation for all participants.

Where we decide burdens must be imposed, they should be imposed in a competitively neutral way and similarly for benefits.

In such circumstances firms' investment decisions can be driven by market forces, especially customer demand not regulatory mandate.

In an open, competitive framework it is reasonable to rely on private incentives to drive investment. Mandates, which as a practical matter, would fall most heavily on the traditionally regulated firms, are unnecessary or worse.

Much of the investment in the infrastructure of the future will, of course, be made by long-established firms. But as much, or perhaps even more will come from new and essentially unregulated firms.

We have to remind ourselves that none of us knows what the right investment proportion or type of investment is. We do not know who, specifically, will or should make any particular investment. But that is, in the end, why we wish to rely on markets and to allow competition in these markets.

To mandate a particular outcome is to reject the reliance on competition that is the fundamental purpose of this exercise.

Thank you very much, Mr. Chairman. And I will be happy to answer any questions as well.

The CHAIRMAN. Thank you.

[The prepared statement of Mr. Gordon follows:]

Testimony on
Federal Telecommunications Legislation,
on behalf of the
National Association of
Regulatory Utility Commissioners
by
Kenneth Gordon
March 2, 1995

Good morning Mr. Chairman, and members of the Committee. My name is Kenneth Gordon and I am Chairman of the Massachusetts Department of Public Utilities. I am appearing this morning on behalf of the National Association of Regulatory Utility Commissioners. I appreciate this opportunity to comment on the proposed federal telecommunications legislation.

The telecommunications industry, already quite competitive in some markets, is becoming more competitive every day. With the right state and federal policies, including appropriate legislation, this industry can be even more broadly competitive than it is today. Policies that ensure fair terms of entry into all telecommunications businesses to all potential players, and at the same time allow full competitive flexibility to all players, have the best chance of ensuring an efficiently configured, consumer responsive industry to carry us into the information age that has clearly already begun.

It is worth noting, just to keep some perspective, that much of the change that is taking place is beyond the reach of policymakers. The revolution that is underway in the information and telecommunications industries will go on with or without our help. But I am convinced that good policies can accelerate and facilitate, and make more equitable, the outcome of this process.

States, and state regulators, which just a few years ago were regarded as obstructions to competition by some, are now in the forefront of creative reform in this industry. New York, Washington, Illinois, Maryland and, I am happy to say, Massachusetts; as well as others, have adopted more flexible regulatory approaches and opened entry in these markets to a degree unimaginable a very few years ago. In this process we are seeing exactly the kind of creative federalism that is often given a bow, but too often overtaken by the desire to move ahead quickly to a single solution.

We need to recognize that each state's market is different, and that states are trying to move in response to these markets. As a result, not every state is moving at the same pace, and different states are adopting varying approaches to competition. We are learning from that process, and from each other. In my judgment, the states have led the competitive process in the last few years. This is as it should be, as the focus of competition shifts from the equipment and interexchange markets to the local exchange, once upon a time thought to be the ultimate monopoly.

We at the NARUC agree fully that regulatory and legal barriers to competition at the local level should be removed. This is the lynchpin of today's telecommunications policy. It is important for foreign as well as domestic policy reasons. The other day, Assistant Attorney General Bingaman said of her office, "We are the competition people, not the regulators". Those of us in the states will without doubt regulate so as to protect customers where still necessary, but we think we are the competition people as well. In fact, so much so in the case of telecommunications, that a little less than a year ago we took an action that I believe to be unique in NARUC history. We acknowledged the legitimacy, should it prove necessary, of pre-empting state limitations on the ability of new entrants to participate in local telecommunications markets. As I said, we are competition people too.

We do believe that, at least for the time being, states must retain the authority to set terms and conditions for those operating in the intrastate telecommunications arena. First, we have a strong stake in ensuring that effective and efficient competition develops. It will be in large part state regulatory policies that provide the necessary underpinning. Second, policies to assure that universal service is sustained in ways compatible with competition can and should be designed by the same state authorities that are overseeing that competition. The goal of universal service can be sustained in an increasingly competitive environment, but it needs to dovetail with each state's competition approach. As I have already noted, these will not all be identical, nor should they have to be.

State regulation that promotes public safety and welfare and ensures that service quality continues at high and reliable levels will be necessary until customers have a degree of choice that allows them to express their dissatisfaction by moving to another company rather than calling me up.

We also need to be able to set rates in pursuit of a fair and reasonable transition to competition. I am talking about the need to protect customers **and** the transition process to competition at the same time. Several years ago the Massachusetts Department of Public Utilities recognized the possibility of local competition and determined that our particular rate structure was not likely to be compatible with a competitive environment. We began a process, still under way, of reducing some rates and raising others, **both** to facilitate the emergence of local competition and to ease the burdens on customers during the transition period. I mention this experience not to be parochial, but to suggest that open entry policies are more likely to bear fruit if states retain the freedom to both manage and accommodate the process. In Massachusetts today we have four carriers with local service tariffs on file, in addition to Nynex, one of them contemplating residential offerings.

Just and reasonable rates extend to interconnection service. Competitive carriers are also customers of the traditional service providers. We recognize that the terms and conditions of interconnection are a critical complement to open entry policies. But, as in the case of other rates and conditions, states need to retain sufficient authority and flexibility in setting the specific parameters under which all carriers interconnect with each other. Comparability, efficiency and competitive parity will not be found in a "one size fits all" approach.

An increasing number of telecommunications services can already be classified as competitive. We agree that the states as well as the FCC should have the ability to modify or even forbear from regulation when a provider lacks significant market power. One aspect of this is pricing flexibility that allows reasonable responses to competitive forces by all participants in a market.

And one last regulatory flexibility issue: alternative regulation. Price regulation, price caps, rate caps, revenue sharing, rate case stay-outs and a host of other variations that break away from cost based regulation have been adopted by, or are under consideration by, almost every state. Each is different, each one tries to fit that particular state's needs--indeed different companies' needs **within** a state.

Cost based, rate of return regulation has serious deficiencies that many people acknowledge. It does not promote operational efficiency and, as well, contains incentives that are not conducive to fair competitive behavior. Well designed alternative approaches may be able to alleviate those problems and promote a more efficient investment environment. But this ground, while certainly not unplowed, has not yet provided us with enough experience to decide which approach works best, which details are critical and which are not. A rigid mandate for price regulation could curb useful current experiments and foreclose others entirely. The level of activity now under way in the states strongly suggests that no mandate is, practically speaking, necessary.

The last issue I will address is universal service. Whatever its faults, the current regulatory framework led to the highest levels of telephone penetration in the world. Maintaining that penetration, even as we take advantage of competitive opportunities is, and will remain, an important goal of state regulators. We acknowledge the legitimacy of establishing a basic level of universal service, below which no state should fall.

The task we all have is to retain the goals we pursued and achieved under monopoly while opening the market to new players and taking advantage of new opportunities. The process must meet universal service goals while preserving competitive opportunity.

The NARUC believes that carriers engaged in interstate or foreign communications should contribute to any federal program deemed necessary for the achievement of universal service goals, and that carriers engaged in intrastate communications should contribute to any state programs that may be found necessary. We oppose federal collection and management of intrastate funds.

Indeed, believing as we do that state officials are likely to have a better grasp of their own citizens' needs than the federal bureaucracy, the administration of universal service assistance from whatever sources derived, may better be put to use at the state level. NARUC is currently exploring an approach to universal service funding that incorporates a state block grant concept.

Just as important as equitable funding is competitively neutral payment mechanisms. Whether funding is directed to customers directly or through carriers, all providers should be eligible to receive support payments. Only in this way will the support mechanism be compatible with competition.

A brief word about the relationship between the economic-regulatory structures I have described and the critical goal of advanced infrastructure development. The goal of the framework described is a market open to competition, with fair opportunities and flexible regulation for all participants.

Where we decide burdens must be imposed, they should be imposed in a competitively neutral way, and similarly for benefits. In such circumstances, firms' investment decisions can be driven by market forces--especially customer demand--not regulatory mandate. In an open competitive framework it is reasonable to rely on private incentives to drive investment. Mandates, which as a practical matter would fall most heavily on the traditionally regulated firms, are unnecessary--or worse. Much of the investment in the infrastructure of the future will of course be made by long established firms--but as much or perhaps even more will come from new--and essentially unregulated--firms. We have to remind ourselves that none of us knows what the right investment proportion, or type of investment is. We do not know who, specifically, will or should make any particular investment. But that is, in the end, why we wish to rely on markets, and to allow competition in these markets. To mandate a particular outcome is to reject the rationale for reliance on competition which that is the fundamental purpose of this exercise.

Thank you very much. I will be happy to answer any questions you may have.

The **Chairman**. For the information of Senators, we are trying to get two more Senators back so that we would be able to make that quorum vote.

Let me begin by thanking each of you. And I shall ask two questions and then move on to my colleagues. I think we will limit these, the first round, if we could, to 10 minutes per Senator.

Mrs. Bingaman, in your speech to the Press Club earlier this week, you outlined a number of specific steps that had to be taken before Bell Companies could be allowed into long distance.

But you also said these steps alone were not enough, that there would still have to be more analysis, market tests and so forth. I guess that I would address this question to you and to Mr. Irving to get the feel of the administration and if you would like to comment.

But in your prepared testimony you seemed to focus on the question of Bell Company entry into the long distance market to the exclusion of the plethora of other subjects contained within the Senate draft legislation.

So the Committee fully understand the administration's position, will you clarify what your position is vis-a-vis the manufacturing and cable/teleco issues? For instance, do you favor a date certain approach for Bell Company entry into manufacturing and cable?

A few years ago the Senate passed Senator Hollings' manufacturing bill which, I believe, contained a date certain. If as the Senate did, you favor a date certain approach for manufacturing and cable, how and why do you distinguish long distance?

Are not the dual anti-competitive concerns of cross subsidy and discrimination the same whether discussing long distance, manufacturing or cable?

Ms. **Bingaman**. Mr. Chairman, our testimony last year, which we support here, was that the provisions of the bills last year which we testified on extensively which had a 1-year wait for entry into manufacturing with the ability of the Department of Justice to challenge under 8(c) entry into manufacturing during that year if it determined that there was a substantial possibility that entry could impede competition, remains our view today.

That is, we believe that the Department of Justice should have a role in manufacturing as it does, in our view, properly should have a role in long distance. That is that the crucial test is whether entry by the Bell Companies into these adjacent, competitive markets has a substantial possibility of impeding competition.

So our view on that is comparable I believe. We believe the test is the same. And that is our position.

The **Chairman**. Well, now, do you believe the detailed set of preconditions you proposed for long distance entry should also apply to manufacturing and cable relief?

Ms. **Bingaman**. We believe that—yes, we believe that the interconnection requirements should be applied. We believe that the interconnection requirements are important because it is critical that the Bell Companies not have the ability to impede competition in adjacent markets.

And it is opening up the local loop that is the best guarantee ultimately against the ability to cross subsidize or harm competition in adjacent markets.

So our view is that ultimately it is eroding the local monopoly. It is eroding the local monopoly power which—and having competition in that market as well as adjacent markets.

Our vision, Senator, let me say very straight, is that any company can offer any service to any customer. And to achieve that vision, which is true in a lot of markets but has not been true in this heavily regulated market, it is necessary to open the local loop so that any company can offer any service to any customer in the local loop.

And when that is done, there is—the corollary is any company can offer any customer any service in adjacent markets.

So these two things are inextricably tied. The reality is the Bell Companies have had a monopoly in the local loop for decades and decades because that is the national policy we followed. That is what has happened.

As you have seen competition grow in the adjacent markets and the Bell Companies getting into adjacent markets, that is where we have gotten into the issues about "How do you balance competition in adjacent markets by Bell Companies when they still have monopoly control of their local market?"

And that is—those are the tough issues that the country is struggling with and that this Committee is struggling with.

But to make it work, the local loop has to be opened. It has to be opened to competitors. And the Bell Companies, when that happens, should be able to get into adjacent markets.

The CHAIRMAN. Now, if you believe the details that are the precondition you proposed for long distance entry should also apply to manufacturing and cable, how do you square that position with the string of recent court cases striking down the cable/teleco prohibition on First Amendment grounds?

Ms. BINGAMAN. Mr. Chairman, as you may know, the Department of Justice opposed those court decisions. And we have under consideration right now possible further actions in those cases. So I cannot discuss specifically. But I can tell you that we opposed the court decisions.

The CHAIRMAN. Good. Now, Ms. Bingaman, you also stated that the test of local competition should be based not on market share but a judgment based on market facts, as I understand it.

If a Bell Company has taken the prescribed steps to ensure that its network is fully opened to competition, yet no competitors enter, should the Bell Company still be allowed to enter the long distance or equipment manufacturing or cable market?

Ms. BINGAMAN. Mr. Chairman, I think, No. 1, that is not a likely scenario. I think competition will occur.

But taking your question just at face value, if you have these interconnection requirements on the books, but no one chose to enter so the Bell Company still had a monopoly in fact and wanted to get into this other market, I would have concerns. And I will tell you why.

I would question—because I believe so firmly that competition will come if interconnection is, in fact, open, I would question if there were not competition in fact. I would question the premise that, in fact, there was an open local loop, because I believe, and

I believe the experience in Rochester has shown—Mr. Gordon knows.

Chairman Gordon mentioned that we met with NARUC. We had about 15 leading State commissioners in our office on Tuesday of this week. We had a very interesting exchange.

Lisa Rosenblum of the New York Public Service Commission said that in Rochester, which recently opened up—and New York has led the way in this with—in Rochester Telephone in its experiment, opening up the local loop.

They have got a provision where any company can buy and resell local service from Rochester at 95 percent of retail rates. So it is a 5-percent discount.

And she told us that AT&T had taken out a one-page ad 1 day and signed up 4,500 customers out of a possible 100,000. That is almost 5 percent of the market was gone in a day because the local loop really was open.

And I think what that says to you is there are a lot of competitors out there waiting to enter the local market. And the Bell Companies, in exchange, once that happens, can get into their markets. That is only fair. That is what it is about.

So I guess what I would say to you is if no one entered, I would look very, very hard at whether the local loop was really open, because I think there will be entry. I think the experience in Massachusetts which Mr. Gordon can tell you about, and the experience in New York were just at the beginning stages of this.

But I believe with all of my heart this will happen. And we should move forward to make it happen.

The CHAIRMAN. Good.

Well, following that up, Mr. Irving, given the economic reality that a competitor will not enter a market where the incumbent provider is pricing service below cost, how can the concept of subsidized universal service be reconciled with the desire to promote local competition?

Mr. IRVING. We believe that there is going to have to be, for some people in some places in this country, continued assistance with regard to ensuring that they stay on the telephone network.

We also concur, Mr. Chairman, however, with I think what this Committee believes, that if we promote competition, we are going to drive down the price and improve consumer choice.

So we believe that, for most consumers universal service will be less of an issue because increased competition should reduce prices. As we have noted in long distance, it is reduced by about 50 percent.

We hope the competition in local markets, if consumers really had a choice as to who provided their local telephone service, that we would get the same kind of benefits.

For those consumers who still, because of geography or economics have a problem, we need to find a way to ensure that all of the various players, carriers in the telecommunications market contributed to assuring universal service.

Mr. Chairman, if I could, I would like to correct something for the record with regard to my colleague's comments with regard to cable. She is absolutely right with regard to manufacturing and long distance.

The administration strongly believes that the AT analysis by the Department of Justice and the public interest tests by the FCC is necessary.

With regard to cable, however, there is a slightly different analysis. This administration believes we should permit the telephone industry to provide video services through a separate subsidiary.

We would want to make sure that there is no possibility of cross subsidization, that monopoly rate payers are not subsidizing what is happening in the cable marketplace.

But we do agree that we should open up the video marketplace on a nearer term and under a different analysis than in the manufacturing and long distance. And I just wanted to clarify that.

The CHAIRMAN. I shall now call on the ranking member, Senator Hollings. I want to thank Senator Hollings and his staff, and the staff of all Senators who might be somewhat bleary-eyed.

I think they worked through the week—they are working through the weekends. And I thank you very much.

Senator HOLLINGS. I thank you, Mr. Chairman and your staff. We are all working together.

There is a fundamental misunderstanding here with respect to a date certain, I noted from the Chairman's questions.

It said, "Wait a minute. You put in a date certain for manufacturing. Why not put in a certain—date certain here for the RBOCs to get into long distance?"

Well, there is a big difference. There is no monopoly in manufacturing. Thousands of telecommunications manufacturers all over this country and all over the world—in fact, the Germans and the Dutch and the French and everybody else are coming in here, and Canadians, and taking it over.

So we have got more than viable competition with respect to manufacturing. And what we were doing not dealing with the monopoly to get into markets—here, with the RBOCs, you have got a monopoly that will persist as a monopoly under a date certain.

If I was going to run Bell South, I would tell you how to run that thing. You give me a date certain, I will have appeals, motions, meetings. We will have lunch. I will come to see you. I will explain it. [Laughter.]

Senator HOLLINGS. And we will keep having lunches. We will have Christmas parties and everything else. [Laughter.]

Senator HOLLINGS. And then let us say a date certain 2 years from now, hey, boy, I will take my monopoly and do exactly what General Bingaman pointed out in her full statement. I wish that full statement could have been read.

Under the time limitations, I agree with you, Mr. Chairman.

But out of that full statement is a sense of history of what we have experienced.

And it is back to the old game of "Watch what they do, not what they say."

And AT&T with the RBOCs—I heard the talk before the Press Club. And I thought she was going after the AT&T folks.

But, you know, on second thought, that was the RBOCs and AT&T. And brother, they would not give up at all. They tried every trick in the book.

And finally, we had to come with Judge Greene. We tried. They tried, and everybody else. And they finally consented. And it is under consent decree.

Now, that sense of history should be understood. And similarly, what Mr. Irving has pointed out, I am the author of the deregulation of cable in 1984.

I knew it at the time, but I went along with the majority.

I said, "Do not give this thing to the cities. I am sitting in the Capitol City. And three-quarters of our Capitol City still does not have cable because they cannot get together with the City Council."

That was the situation.

But the other thought prevailed, "Give it to the cities."

And that is why we had to come back in 1992, and even override the President of the United States' veto to get back, at least, at the rates, because we know that deregulated as they were, with monopolistic situations in the municipalities of America, the prices were soaring through the ceilings; three times the price was going up.

So we now are working from hard experience, having listened to what they say but then watching what they have done.

And I hope—I am sure that the full statement of General Bingaman will be included in the record.

The CHAIRMAN. It is.

Senator HOLLINGS. I thank the Chair.

With respect to Mr. Gordon and the public utilities, I know you folks did not like us preempting State entry, because I am more or less a State's rights man. But we have got to get the information superhighway.

If President Eisenhower had come in 1955—that was what he was working with, the State Highway Department. I can show you the place in Georgia where you are bound to get arrested. I used to train down at what they called Camp Stewart at that time. I do not care how fast you were driving.

So we just could not trust the highway departments of the several States. And that is why we have had through hard experience, Mr. Gordon, come to the preemption.

But with respect to the central role of actually rendering universal service, you have got to take a part. You are the principal part there of maintaining that universal service, because we do not want to go the way of the airlines where they are all broke.

And thank heavens for the foreign regulated entities coming in here and financially bolstering our deregulated. We have come full circle where the regulated are now taking over the unregulated. And we are all smiling and thanking them. [Laughter.]

Senator HOLLINGS. Mandatory price caps, why do you object to mandatory price caps, Mr. Gordon?

Mr. GORDON. Senator Hollings, we believe that the template on which incentive regulation is going to be done is not so well established or so well known that there is a good single model that could be done.

Virtually every State in the country is trying to achieve something in this regard or has already achieved something. If there are exceptions to the proposition that people are, at least, working on it in the middle of proceedings, I do not know what they are.

The fact is that there are different circumstances in different States. And in a State as large as New York, it may well be desirable to have different plans for different companies.

I know of no State that is not looking at the issue, does not see it as a necessary adjunct to allowing proper incentive, investment incentives.

And so, I simply think that the work is being done, that mandating something that people are already doing is an exercise that is more likely to constrain their flexibility and their ability to tailor what they want than it is to make them do something that they would not otherwise want.

If I could add to that, where we do see clear interstate interests at stake and broad national, and in the case of entry, even foreign policy considerations at stake, we have stepped up to the bar, Senator, and said, "Go ahead and preempt us."

And that is on the fundamental issue of entry itself.

Senator HOLLINGS. Very good. So you like the flexibility. In other words, where price caps are desirable, fine; where rate of return is desirable, fine, is that right?

Mr. GORDON. I am personally deeply skeptical that rate of return is the right model for the long-term as this industry becomes more competitive.

In my own State, we are in the middle of drafting an order on that topic at that moment. And I suspect that, if properly designed, a price regulation mechanism is probably—will probably prove superior. But we, in Massachusetts, need the ability to do it our way.

Senator HOLLINGS. Very good.

General Bingaman, with respect—I like the expression "access" because we started out, which gave misgiving to our RBOCs friends when we said "Actual and demonstrable competition."

They came with the obvious rejoinder.

They said, "Wait a minute. We can open it up. If nobody comes in, we still cannot do business. We just have to wait."

So then we went to the 8(c) test which they had agreed to, under Judge Green's modified final judgment whereby there was no possibility of—substantial possibility of using their monopoly power to impede competition.

And they then said, "Well, what does that mean?" because they testified here.

The Bell Atlantic president, on behalf of the seven companies said, "Oh, yes. We agree with 8(c)."

And then we got into really months of the Chairman's staff, mine and all of the others fashioning the words "unbundling" when what we really mean is give them access.

Can you elaborate on that and the background of your—of the Department of Justice's experience, that that is a quid pro quo to really bringing about the information superhighway?

Ms. BINGAMAN. Senator, it is a crucial quid pro quo. And you are asking me to recount experience. I am very glad to do it. Let me give you 25 years in 2 minutes of the Department of Justice and AT&T.

We started this entire thing in the mid-1960's when——

Senator HOLLINGS. Now, that is when AT&T had the RBOCs.

Ms. BINGAMAN. I am talking 30 years ago. Thirty years ago the Department of Justice started the whole telecommunications revolution by filing a petition with the FCC that led to the Carter Phone decision in 1968.

And the Department of Justice said, "Wait a minute. Why should AT&T," which was one huge company with Western Electric as its manufacturing sub, "Why is it that they are the only guys who can sell a telephone to a consumer? Why does that make any sense? Telephones do not have anything to do with the local monopoly. This ought to be a competitive business."

This is in 1965 I am talking about. My gosh, we can hardly remember that. That is when this whole thing started.

The Department of Justice said to the FCC, "Break off telephone sets."

Remember the black sets? "Let somebody else invent a better telephone."

The FCC said, "Dog gone, that makes sense. We are going to tell AT&T they have got to let competitors make telephones."

In 1968 that happened. All right. Do you know what AT&T did next? They were not dead. Then ensued 13 years of fights over interconnection of this equipment to their network.

And the whole thing they were saying—they said, "All right. Some other guy may be able to make a better telephone, but we have got the network. And we are going to say it degrades the quality of the network to hook up your telephone to our network. You might hurt our wires. You might hurt our equipment. You might do this and that."

And we had 13 years of dogged litigation by all kinds of private companies, competitors, trying hard to sell a better mouse trap, a better telephone. They could make it. They could sell it. It just could not be hooked up.

That is part of what led to the breakup of AT&T because the conclusion was the mine demand cannot get through slogging litigation with rate-based telephone company lawyers paid for by ratebase. You will never beat then.

That is, basically, what led to the breakup, that, plus their ability to cross-subsidize.

In 1982, Judge Greene, having heard several years of testimony on this, all kinds of witnesses, said at the recommendation of Bill Baxter and the Reagan Administration, "There is no way to regulate this. There is no way. There is not enough tens of thousands of man hours in the world to fight the phone companies over their network. We have got to just split it up. We have got to break up," because the second part of it, of course, was long distance.

They were not letting long distance companies hook in, just like they were not letting competing equipment companies hook in. And they were cross-subsidizing. It was those three things.

So, Senator, you are exactly right. There was a huge history to the breakup. And it was a history of obstructionism, obfuscation, dogged trench fighting against deep, deep, deep pockets and litigation. And that is what led to the breakup.

What happened after that was the long distance market became competitive. Sprint ran its pin-drop ads, laid the first fiber optic cable. AT&T had never done that. Sprint did it. MCI followed.

AT&T was the last one to do it. That led to the fiber optic revolution.

I do not think there is any question that competition in long distance and the competition spurred by breaking off Western Electric from AT&T has been a tremendous success.

We have got tremendous—we are ahead of the world in equipment, on the equipment side. We are ahead of the world on fiber optics. We are ahead of the world on faxes. We are the envy of Japan.

I mean, there is nobody like us. And it is that competition.

The problem is, having learned from that history, if you do not get this interconnection right, if you let these guys slug it out in State commissions or in courts, you are back to 15 years of fighting while they are over there in long distance.

And that is the game. That is the game that is being played. And you understand it, Senator, that history, as you say.

Senator HOLLINGS. My time is up. But when you use the expression "slug it out in court," that is, as I see it now, the distinguished Chairman's bill.

He says, "Let them negotiate in good faith, and penalize them if it is not in good faith."

I do not know how in the world you would come down, for example, under the baseball strike and say, one negotiated it in good faith and the other did not.

I mean, you would have to be King Solomon. And there are still negotiating. So I mean, not—to negotiate in good faith translates a.k.a. slug it out in court. We have been through that before.

Ms. BINGAMAN. Slug it out—not only that, Senator. But you are going to slug it out on every single negotiation. Negotiate in good faith as to what? You have got hundreds and hundreds of negotiations in every State. It is a lawyer's dream. We have got to build some more law schools here. [Laughter.]

Senator HOLLINGS. Thank you, Mr. Chairman. At least we got some more lawyers.

The CHAIRMAN. Senator——

Mr. GORDON. Could I add a brief point to that? The interconnection issue is well recognized in the States as a tough issue, an absolutely essential issue.

But States like New York and Illinois, Washington and my own State have made some substantial progress on this. The State regulatory commissions are not unaware of the critical issue. It absolutely has to go in tandem with the open entry policies. We recognize that.

And frankly, a number of us are not waiting for the legislation or for preemption by some other regulatory agency to get going on this issue.

If the commissions want to move ahead, the companies will move ahead with them.

The CHAIRMAN. Senator Rockefeller.

Senator ROCKEFELLER. I have no questions.

The CHAIRMAN. Thank you. Let me ask Ms. Bingaman one further question. It seems a central issue is a monopoly in the local telephone market.

And if one decides that due to monopoly in the local telephone market, there should be no date certain for entry into long distance, that same analysis, due to fear of cross-subsidizing or discrimination would apply with equal force to entry into manufacturing and cable.

That is, unless someone can explain how or why—to distinguish between long distance, manufacturing, cable or other prohibited businesses. How do you make that distinction?

Ms. BINGAMAN. I would say, as I said before, on the manufacturing side of this, we supported last year a bill which would have what they called a passive 8(c) test.

That is, application would be made to the Department of Justice which would have a year to decide whether or not to challenge in court under the manufacturing provision.

So we believe that that is important. It is important that there be no substantial possibility of impeding competition through cross-subsidies on the manufacturing side. We agree with the Senator on that.

Under the bill last year, as I told you, we believe a passive 8(c), as it is called, test, administered by the Department of Justice because of our long history in this—on the cable situation, it is a different question because, basically, you have cable companies which have a monopoly right now on these other competitive markets that the Bell Companies seek to enter. There are not monopolies.

The long distance market is not monopolized. It is not as competitive as we wish it to be. And the Bell Companies could help this. We believe, properly done, they should be in long distance. We do not have a problem with that.

Manufacturing is not monopolized on that side of it. Cable, by and large, is. It is a fundamentally different market situation. So——

Mr. IRVING. Mr. Chairman, if I could: I think that both the drafts you have seen also recognize that difference. I think both the Hollings draft bill and the Pressler draft bill treat the cable industry and entry into video programming differently then they would treat manufacturing and long distance, we think, for basically the same sound policy reasons.

If you make sure that interconnection and unbundling requirements are imposed on the telephone companies, and you ensure that they cannot cross-subsidize, they do not have monopoly power. And they cannot leverage their monopoly power in the video marketplace, to the same extent we fear they could and would in manufacturing or long distance.

The CHAIRMAN. All right. Let me ask all three of you, would you support a date certain and a passive 8(c) test for long distance?

Ms. BINGAMAN. I think it could be made to work. I would put it that way. We have not considered this. I think it is critically important that the Department of Justice have a role analyzing this interconnection and what has, actually, happened market by market, because, as Chairman Gordon points out, it is going to differ State to State.

There is not a blanket thing that is going to happen across the country. You have got seven RBOCs. You have 50 States. You have a lot of different ways State commissions can handle this unbundling. There are different speeds.

And that is why it is vitally important for the Department of Justice to look at each market and to determine whether, in fact, there is competition in that market and whether unbundling has happened, because this is a complex situation which is going to differ State to State. There is no question about that.

As to your specific question, as long as the Department of Justice has a role, can challenge it and can go to court to stop entry in a particular market, that is the key thing.

And truthfully, we would be glad to work with the Senator on approaches of some kind that maintain that crucial role.

Mr. IRVING. Mr. Chairman, if I could, since you asked us both: We have a concern that the date certain could be both too long in some instances and too short in other instances.

We prefer to give incentives to the RBOCs to open up their local loop. When they take care of things like unbundling and interconnection and number portability, when they can pass an 8(c) test and when the FCC passes them—gives them a clean bill of health on a public interest test, let them then get to the activities.

That could be 6, 9, 12 months. It might, in some instances, be 45 months or 48 months. But it is going to vary.

Those companies, those RBOCs that open up their markets, we should allow them the benefits of going into manufacturing and long distance.

Those companies that do not open up their markets, there is no reason we should give them the benefits of knowing that, in 3 years, irrespective of whether or not they have comported themselves well, they are still going to have the benefits that other companies have gained.

Mr. GORDON. Mr. Chairman, it seems to me the cardinal principal here that we are trying to apply is open entry. And if you are going to have open entry in one market, you need to have open entry in all markets.

And so, at some stage of the process, there is no question that everybody has to be able to get into everybody else's business, including people who have traditionally held strong market power positions.

The interconnection issue is a critical one. There really does have to be the ability to get around the local loop bottleneck in this process.

The way the date certain fits in there, it seems to me, could be awkward. It could be helpful.

I confess to a little bit of ambivalence about this. If you have no end game in mind, you may never get there.

And so I have some sympathy for those who are suggesting dates. At the same time, it seems to me there does need to be some kind of an understanding and assessment that the markets really are open.

It may be that the best function of some kind of a date out there, whether it is a date certain or some variation on it, is to have us focus our minds and have the participants focus their minds to get about the business of doing the pre-conditions so that you can get in—get these markets open on a legitimate basis.

Senator HOLLINGS. Mr. Chairman, may I?

Mr. Gordon, maybe it could be a date certain for unbundling, interconnection and number portability. Once you get it open, there is no doubt about this competition is going to come in. Everybody is going to court now and making motions and everything else.

The development, wonderful, is ahead of the Congress in the law. And like your State and in New York, they are ahead. And I commend it.

But it is not a date certain for entry. It is a date certain for access, a date certain for a competitive environment. If you can develop that by a date certain, fine business.

I will go along any minute there if you want to have a date certain tomorrow, if you can do it in a day, unbundling, interconnection, number portability. Once you have got that, get the Congress, the FCC and everybody else out of the way, and let the competition ensue.

Mr. GORDON. Senator, my comment really went to the tactics of how you would get everybody convinced that they have to achieve those goals.

Senator HOLLINGS. Yes. But there should not be any ambivalence on entry. Entry is when it's able to entry, namely, as the General said, access. That is the key word.

If you can get access, which is—encompasses namely the unbundling, the interconnection and the number portability, then you are on easy street. Everybody go there.

Ms. BINGAMAN. Could I just make one comment here to Chairman Pressler because this is such a key and vital part of this thing?

The problem is you need to rely on carrots not on sticks. You have to give the incentive to the Bell Companies to move forward. You have to make them want something because they have it in their power to litigate forever.

And if you are litigating over punitive damages because they did not negotiate, you can do that for 10 years. If you are litigating over whether, in fact, they opened up and Department of Justice is suing them because they did not do it, you can do that for 10 or 15 years. We have already done that.

The trick to this is to make them want to do it by giving them a reward for doing what we want them to do. And the reward is long distance entry, which they desperately want and which we do not object to, and the country needs. And it can inject competition into long distance.

But you have to make them want to do that. They have got to—they are the ones who have it in their power to do it.

And I—the simplest way is to say, "Give them a carrot. Do not threaten them with a stick."

That is where the incentive needs to be.

The CHAIRMAN. I have one final question. And that is: Isn't it true that two former Bell System companies, Cincinnati Bell and Southern New England Telephone, as well as Sprint—which is a $12 billion a year company—are in the local, long distance and cellular markets today as I understand it?

Are any of you aware of any complaints about the activities of these particular companies? Should all of the safeguards of separate subsidiaries, interconnection, unbundling, number portability, resale, et cetera, also apply to Sprint and these other companies?

Should Sprint and the other local exchange carriers currently providing long distance service be required to do so only through a separate subsidiary, or might we even contemplate the forced divestiture of local telephone operations?

If we make distinctions, how do we propose justifying such distinctions? The potential anti-competitive activity of cross-subsidy and discrimination are the same, is that not true?

Would you like to comment on that general area?

Mr. GORDON. Well, I will take a crack at it. The central issue here is the structure of the local market. And I think in every local market people need to be able to get in. There needs to be comparability and access across the full range of companies.

I think State regulatory commissions are looking at those issues. I do not want to speak particularly about Southern New England or Cincinnati because I do not have any direct knowledge of it.

But the structural issue is similar whether it is a company that extends over seven States or whether it is a company that has one portion of a State.

If you look at the New York example, the Rochester Telephone Company is a good instance where some major steps were taken in order to assure open access to the market.

It does not seem to me that it requires divestiture necessarily or any structural, sort of, solution. Companies may choose to do that as a convenient may to meet the open access requirements.

But I think what you will see and are seeing is things that are tailored to the individual circumstances. The access issue is addressed. But it is not addressed, necessarily, through drastic structural kinds of means.

State regulators do understand that, in each instance, people have to be able to get access to markets. That can be done in a wide variety of ways. And I think the Rochester example is one good example.

There are examples in the Ameritech region, in Washington. We hope to have an order out in my State in the relatively near future that will deal with the terms and conditions.

And so I think the issue is one of the particular market, not a one-size-fits-all again.

Ms. BINGAMAN. Mr. Chairman, I would simply add two sentences. From our perspective of 15 years of litigation before the consent decree over the issue of cross-subsidization, we believe there is a real need for separate subsidiaries to separate the local monopoly operations from competitive businesses.

And it can be either way that the competitive businesses can all be in one separate subsidiary. That is not a problem, or the local monopoly can be. But there is a real serious issue of cross-subsidy. And it seems to us that is the cleanest way to address that.

The CHAIRMAN. OK. I want to thank this panel very much.

And we will call forth our next panel at this point.

Mr. IRVING. Thank you, Mr. Chairman. [Pause.]

The CHAIRMAN. We will proceed. Our first witness will be with us live from New York, as I understand it. We do have a 5-minute summary we are asking—we have the lights on here.

I do not know—Peter Huber, can you hear me? Are you prepared to come in for us for 5 minutes here and give us a summary?

Mr. HUBER. Yes. I would be glad to.

The CHAIRMAN. Great. All right. We will proceed with Peter Huber, Senior Fellow, Manhattan Institute. Proceed.

STATEMENT OF PETER W. HUBER, SENIOR FELLOW, MANHATTAN INSTITUTE

Mr. HUBER. Thank you very much, Mr. Chairman. I do appreciate the efforts of your staff bringing me in here from Sixth-seventh Street, New York.

I asked the studio manager how they get people like me down to Washington, and he said, "Well, we could use a Nynex line to get to the Empire State Building, or we can use a IDB line, or a Teleport line, or we can go direct by microwave, and then off to a satellite."

So he had four or five ways he could have gotten my picture down to you this morning.

I listened to the Assistant Attorney General's testimony, and I read a news wire report of a recent speech she gave. I was struck by how the news wire—the story said that the Assistant Attorney General is preparing for a piecemeal approach that will take time, but she feels that the department has an obligation under the MFJ to "peruse" this course while legislation is pending.

I suspect that the Assistant Attorney General, who I count as a personal friend, did not use the word "peruse." But basically the news wire got it right.

"Peruse," of course, implies take your time, do not be in any hurry. We have been perusing telecomm reform for at least 10 years—indeed, for a couple of decades.

For example, in 1984, the divesture decree said nothing about regional Bell companies operating out of region. In 1987, the Department thought it might be a good idea to let the Bells attack each other out of region. That issue has been "perused" for 8 years now. It is still not permitted.

The cable operator where I live in Bethesda happens to be owned by Southwestern Bell Corporation. Yet, if Southwestern Bell attempted to use the existing cable network to compete head to head with Bell Atlantic in Bethesda, where Southwestern Bell has no phone bottleneck—if Southwestern Bell did that, it would be in criminal contempt of the divesture decree today.

Of course, Justice is not alone in the "perusing" business. Several years ago, the FCC announced that it would like to see phone companies offer "video dial tone service" to compete directly with cable. Under the 1992 Cable Act, in fact, price regulation of cable will end once this kind of competition comes along.

It is widely to be desired. Yet, after several years of perusing, we have yet to see any serious number of video dial tone applications approved by the FCC.

The FCC has, likewise, been perusing the line between computers and telephone networks since 1966—29 years. Yet that line is still being litigated.

The rules change every few years, and we are still trying to police a line between phone networks and computers that simply is not policeable. The two inherently belong together.

Back in 1988, after many years of back and forth, the information service restrictions were gradually relaxed somewhat. In very short order, a billion-dollar industry for voice mail alone sprang into existence, as the regulatory barriers come down.

"Perusing" even the simplest waivers through the Justice Department today takes typically 2 to 4 years. I have a table on this in my written testimony.

If this Committee and this Congress do nothing else, they should at the very least deal with, and set dates certain, for some of these easy issues, like video, like manufacturing, like the wireless markets. In those markets the problems of interconnection and so forth have clearly been solved.

Now, it has been suggested, and it has been suggested again this morning, that the leisurely pace of moving forward is necessary to protect competition. We do not need to speculate about this any more.

We have tried local phone company involvement in other markets. Sprint itself, one of the main competitors for the Department of Justice, so often extolled as a major contributor to the health of competition in the long-distance industry, serves 6 million local subscribers.

Sprint is a *local* exchange company. It was a local exchange company, affiliated with GTE at the time, that pushed the deployment of fiber optics into the long-distance market.

The Assistant Attorney General and others have seriously suggested that if we open up entry here, we may, in fact, see a decline in long-distance competition.

Now, there is a single accepted economic measure for assessing the State of concentration and competition in a market. That is the Hertendahl Index. At the moment, the long-distance market, despite all the hand waving, is a very concentrated market.

AT&T has over 60 percent, perhaps closer to 70 percent of that market. I think it is inconceivable that by opening up entry we are ever going to get a single company with more than 60 or 70 percent of the market.

If an RBOC is going to get that percentage, I would like to know which one, because there will be seven of them fighting for this market share.

When I completed my study for Justice in 1987, I felt strongly that Bell entry into information markets was already desirable at that time. Subsequently the courts and the FCC agreed. Market evidence has abundantly confirmed that Bell entry in to information markets was procompetitive, that it spurred competition, that it has built up new industries.

We have tried competition in other markets, in CPE markets, in wireless markets, and so on. AT&T's willingness to bet $17 billion in acquiring McCaw testifies to its confidence that it can compete head to head with Bell companies in today's market conditions.

While we postpone letting our own domestic providers into these markets, we see who the new entrants are. I think they should be welcome, but let us face it, they are British Telecomm, France Telecomm, and Bell Canada.

These are the companies that are now forging the alliances that our own domestic providers are not allowed to forge.

Mr. Chairman, broadcast, cable, and telephone, local and long distance, wireline, wireless, and computers—these technologies are all converging. They can compete in the same market, they will, if regulators and Congress lets them.

We should stop "perusing" these questions and get on with "pursuit." Thank you very much.

The CHAIRMAN. Thank you very much.

[The prepared testimony of Mr. Huber follows:]

Testimony of

Peter W. Huber*

Before the

Committee on Commerce, Science, and Transportation

United States Senate

March 2, 1995

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The best way to promote competition is to forbid it.

Articulate, well-intentioned federal officials have been taking that position before this Committee for six decades. Forbid this set of players to play in this market. And that group over there -- make sure they don't invade this forbidden territory. At least not for another few years. Not until we get some more rules in place. And keep those other guys quarantined too, at least for now. This is the "mañana" theory of competition. It's always less competition today, with a promise of all the more tomorrow. But when tomorrow arrives, there's always some other reason to wait a while longer.

In my view, it's time to promote competition by permitting it.

* * *

In 1986, I was hired by the Department of Justice to conduct the first major study of competition in the telephone industry after the Bell breakup. Justice had promised a comprehensive review of this kind every three years, to reassess the provisions in the divestiture decree that confined the Baby Bells to local exchange telephony.

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[1] Peter Huber, The Geodesic Network: 1987 Report on Competition in the Telephone Industry (1987).

Eight years have passed. On the basis of that first review, the Bells were allowed to provide "information services" like voice-mail and electronic yellow pages.[2] But bars on Bell supplied long-distance service and manufacturing remain firmly in place. So do dozens of other line-of-business restrictions. Broadcasters may not reconfigure their transmitters to provide cellular phone service.[3] The 1984 Cable Act bars phone and cable companies from challenging each other's markets.[4] Interstate carriers need state and local approval to provide in-state service. The FCC still labors to separate "basic" phone services from "enhanced services" and "terminal equipment."[5]

All of these structural rules are at least a decade old; many are based on federal laws written in 1927 and 1934. They predate microprocessors, fiber-optic glass, cellular phones, direct broadcast satellite, and the rapid rise of companies like TCI, MCI, and Sprint. Structural regulation that carves up the telecom industry is now obsolete. Last year I helped three Bell companies prepare a motion to vacate the divestiture decree. If Congress doesn't pass legislation in 1995, this motion will be decided by Judge Greene and the D.C. Circuit Court of Appeals in 1996. I should emphasize, however, that my remarks here reflect my own views, no one else's.

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[2] United States v. Western Elec. Co., 767 F. Supp. 308 (D.D.C. 1991), aff'd 993 F.2d 1572 (D.C. Cir. 1993).

[3] A 1992 FCC Office of Plans & Policy study found that if a UHF television station in Los Angeles were to shut down and transfer its spectrum to a third cellular provider, the overall public gain would be about $1 billion. Evan Kwerel and John Williams, FCC, Office of Plans and Policy, Changing Channels: Voluntary Reallocation of UHF Television Spectrum (Nov. 1992).

[4] 47 U.S.C.A. §533(b) (1994).

[5] Regulatory and Policy Problems Presented by the Interdependence of Computer and Communications Services and Facilities, 28 F.C.C.2d 267 (1971) (First Computer Inquiry); Amendment of §64.702 of the Commission's Rules & Regulations, 77 F.C.C.2d 384 (Second Computer Inquiry), modified on recons., 84 F.C.C.2d 50 (1980), further modified on recons., 88 F.C.C.2d 512 (1981), aff'd sub nom. Computer and Communications Industry Ass'n v. FCC, 693 F.2d 198 (D.C. Cir. 1982), cert. denied, 461 U.S. 938 (1983), aff'd on second further recons., No. 84-190 (F.C.C. May 4, 1984); Amendment of §64.702 of the Commission's Rules & Regulations, 104 F.C.C.2d 958 (1986) (Third Computer Inquiry), modified on recons., 2 F.C.C. Rec. 3035 (1987), further modified on recons., 3 F.C.C. Rec. 1135 (1988), vacated on other grounds, California v. FCC, 905 F.2d 1217 (9th Cir. 1990).

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Key trends in the industry are not in dispute. Broadcast and telephone, once separate, are being brought together by digital, broadband technology. Wireline and wireless media can provide competing services. Sooner or later, consumers will dial up video on their telephones, place phone calls through their televisions, and be entertained by their computers. As services converge, they will compete.

Most policy-makers also agree that once competition takes hold, regulators should let go. The quarrel is over the details. Here, the disagreements remain paralytically intense. Bill Baxter, Ronald Reagan's Assistant Attorney General for Antitrust and principal architect of the Bell breakup, firmly believed (and still believes) that the Bells should be kept out of all other businesses until their own markets were fully competitive. Baxter's decree even barred the Bells from getting into real estate or dairy farming, or from providing long-distance service between Moscow and Paris. The concern was that monopolists allowed to enter adjacent markets will suppress competition, not promote it.

Many of the other structural divisions of the telecom industry have similar origins, and are still defended with similar conviction. The strict separation of "broadcasting" and "common carriage" reflects a commitment by the 1934 Congress to prevent the old, monopolistic AT&T from taking over the comparatively competitive business of broadcasting. The ban on phone companies providing cable service dates back to a 1970 FCC rule put in place for similar reasons. The structural divisions between telecom and on-line electronic services originated in the 1960s; they were intended to stop AT&T from swallowing up the computer industry. (The main beneficiary was IBM, which was itself then accused of swallowing everything.)

* * *

When I completed my study for Justice eight years ago, the dust from divestiture was still settling. Some policy changes seemed immediately in order, but not others. I was mystified (and still am) by a rule that forbade Bells from competing freely outside their home territories; unleashing Bells to attack Bells can only promote competition. Excluding such things as storage and electronic translation capabilities from the public network, as both the divestiture decree and the FCC did at that time, also seemed senseless. The FCC and the courts eventually agreed.

See FCC v. Sanders Bros. Radio Station, 309 U.S. 470 (1940); Findings of Fact and Conclusions of the Commission, Metropolitan Broadcasting Corp. et al., 8 F.C.C. 557 (1941).

Final Report and Order, Applications of Telephone Companies for §214 Certificates for Channel Facilities Furnished to Affiliated Community Antenna Television Systems, 21 F.C.C.2d 307, 312, 324 (1970), adopting 47 C.F.R. §63.54. See also 47 U.S.C.A. §533(b).

Bell entry into long-distance from their home markets was a more difficult proposition. MCI and Sprint were still young and weak. Some Bells hadn't fully deployed the software needed to give "equal access" to all long-distance carriers. Most state regulators remained hostile to local competition. Where they were allowed to operate at all, competing local transport companies like Teleport and Metropolitan Fiber Systems were only just beginning to offer service. Justice therefore decided not to remove the long-distance quarantine at that time.

I missed lots of important trends in 1987: cable's remarkable growth, the imminent explosion of wireless services, and how quickly influential state regulators, like California's and New York's, would come around to embrace competition. But mine was only intended to be the first of many periodic reviews. A second comprehensive study was scheduled for release in 1990. And a third in 1993.

Growth of Local Competition		
	1982/1984	1995
Competitive Access Providers (CAPs)	Did not exist	72 cities 133 networks
Wireless	92,000 subscribers	25 million subscribers
Cable	29 million subscribers 35% homes passed	59 million subscribers 95% homes passed
PCS	Not contemplated	$10B investment in spectrum

Neither was ever conducted. After 1987, Justice sank into a quagmire of detail and delay from which it has never emerged. The Bells have filed requests for relief in specific areas such as international services and wireless services; newspapers, long-distance companies, alarm monitoring services, and hundreds of other interest groups have deluged Justice and Judge Greene with responsive paper. Judge Greene has ruled on over 200 service-related requests for specific relief. In at least fourteen separate orders he has approved service to individual customers who happened to settle down on the shady side of one of the decree's local/long-distance lines.[7] Requests for decree relief now languish with the Department an average of two and a half years. Another two years or more then elapses before Judge Greene rules.

When it comes to lowering structural barriers, the paralysis is just as bad elsewhere. Phone companies have waited much too long for the FCC's (grudging) permission to provide "video dialtone" service in direct competition with cable. (Meanwhile, the FCC pours resources into re-regulating cable rates -- rates that will automatically be deregulated when video dialtone is deployed.) Rezoning the airwaves for new uses takes years: the FCC required over a decade to allocate

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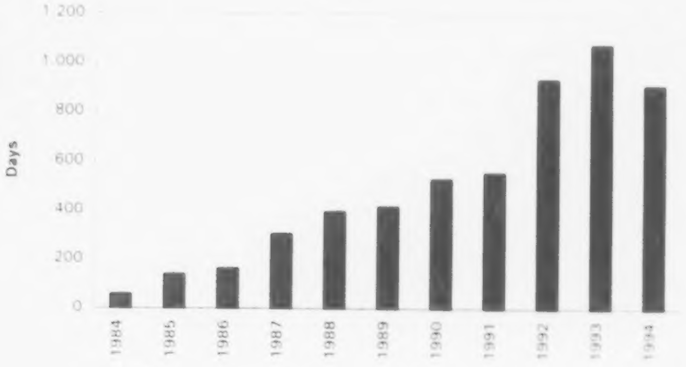
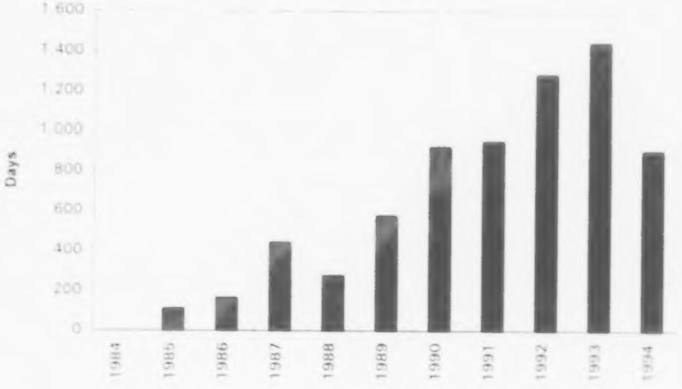
[7] United States v. Western Elec. Co., No. 82-0192 (D.D.C. Nov. 29, 1993); United States v. Western Elec. Co., No. 82-0192 (D.D.C. Sept. 7, 1993); United States v. Western Elec. Co., No. 82-0192 (D.D.C. June 22, 1993); United States v. Western Elec. Co., No. 82-0192 (D.D.C. June 22, 1993); United States v. Western Elec. Co., No. 82-0192 (D.D.C. Apr. 1, 1993); United States v. Western Elec. Co., No. 82-0192 (D.D.C. Dec. 23, 1992); United States v. Western Elec. Co., No. 82-0192 (D.D.C. Nov. 17, 1992); United States v. Western Elec. Co., No. 82-0192 (D.D.C. July 29, 1992); United States v. Western Elec. Co., No. 82-0192 (D.D.C. June 17, 1992); United States v. Western Elec. Co., No. 82-0192 (D.D.C. Mar. 24, 1992); United States v. Western Elec. Co., No. 82-0192 (D.D.C. Sept. 10, 1991); United States v. Western Elec. Co., No. 82-0192 (D.D.C. June 22, 1990); United States v. Western Elec. Co., No. 82-0192 (D.D.C. July 24, 1989); United States v. Western Elec. Co., No. 82-0192 (D.D.C. May 18, 1989).



Average Age of Waivers Pending Before DOJ
(Year-End)



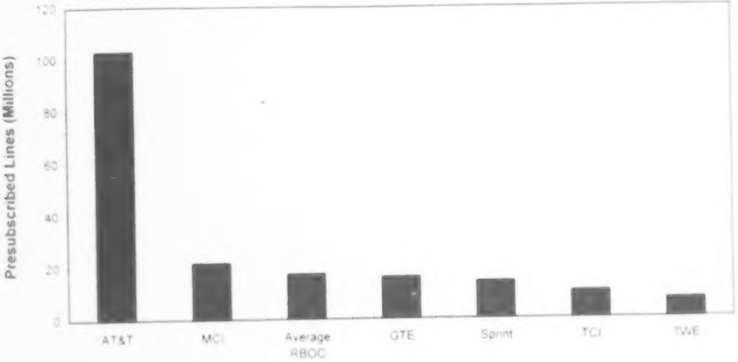
Average Age of Waivers Pending Before District Court
(Year-End)

spectrum for cellular telephony, which then quickly blossomed into an $11B industry. Cable companies, long-distance providers, and competitive access providers have to work their way through fifty state commissions to compete locally, and these proceedings, too, can drag on for years.

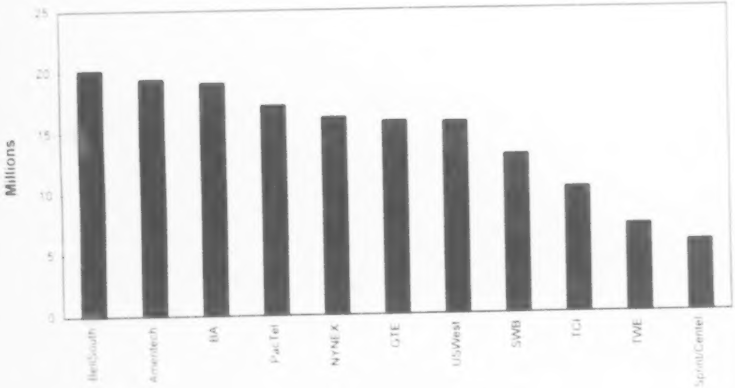
* * *

It is time to put an end to all this regulatory apartheid in the telecosm. Dividing the most important industry of our economy into segregated townships and gerrymandered homelands makes no sense.

Long-distance companies, for example, are the most logical challengers in the $14B short-haul toll market, which many state regulators currently allocate to local carriers. Long-distance companies are also promising challengers in local markets -- the $40B market for basic service, and the $26B market for transporting calls from end-users to and from long-distance carriers. That's why AT&T bought McCaw, and why Sprint has teamed up with three large cable companies -- TCI, Comcast, and Cox. For their part, local phone companies are the most natural new entrants in the long-distance market -- an industry that generates $34B, net of local charges. Sprint, the third largest long-distance carrier, also provides local service to six million customers.



Customers



Local Links to Customers

Equally important is the opportunity to find new, more productive uses for old media. Nextel's ambitious entry into wireless phone service was made possible by letting taxi dispatch companies re-tool their spectrum to provide high-tech digital phone service. A decade ago, microwave was used mainly for long-distance telephony (hence the "M" in MCI); in that market, microwave has been displaced by glass, but it is now being used for local wireless services. Satellite started as a carrier of long-distance telephone calls; today it is used mainly to distribute video to cable. Cable started as a community antenna for retransmitting broadcast television; today it is an important programmer in its own right; tomorrow its most lucrative business may well be as a carrier of voice and data. Ordinary copper telephone wires couldn't deliver video, until microprocessors offered cheap, powerful compression.

Even more important are the industry-redefining opportunities at the interfaces between traditionally separate markets -- markets that aren't being developed at present, for much the same reason that only weeds grew on prime real estate in the shadow of the old Berlin Wall.

Fifteen years ago, for example, the FCC forced telephone companies to rip voice-mail capabilities out of their networks; the Bell decree reiterated the ban. The rules were finally changed in 1988. Today, some ten million consumers use voice-mail; this billion-dollar-a-year market was resurrected by removing just one, counter-productive regulatory barrier between phones and computers.

The voice/video interface may be worth $50B. Voice is a much thinner medium than video, but telephone is two-way and interactive; as a result, telephone generates twice the revenues of broadcast and cable combined. From both sides of the voice/video divide, there's a huge new market to be built by combining voice's two-way capabilities with video's bandwidth. As regulatory walls come down, we can expect a surge of new, hotly innovative rivalry between broadcast television ($26B), cable ($29B), movie theaters ($5B), video rentals and sales ($14B), the newly deployed direct broadcast satellites, and telephone company "video dialtone" services.

Many competitive raids across the traditional dividing lines entail only modest new costs for the raider. Local phone companies could easily provide region-wide toll service over existing facilities. Long-distance carriers could immediately enter the $14B short-haul toll market without laying a single new wire. Cable will have to invest more heavily to add voice and data capabilities to video wires, but far less than any other would-be entrant that doesn't already have a network in place. (Backed by U.S. phone companies, cable operators are already offering competitive local phone service in Britain; business is booming.) The same holds true for telephone companies moving into video.

Such cross-border raids are sometimes denounced as "cross subsidy" and a conspiracy against ratepayers. Most of the time, however, they're just plain efficient. Casio makes both calculators and digital watches cheaply because both use the same liquid crystal displays. Similar powerful economies of scope are there to be seized along all the interfaces between voice, video, and data. And consumers plainly benefit when established providers invade each other's turf.

Complacent, sheltered incumbents don't. This explains why so many players in the industry find much to love in the maze of structural walls that cut across the industry. If private companies divided up phone and cable or broadcast and cellular markets in a private agreement not to compete, they'd be put in jail. When government divides markets for them, competition itself becomes the crime.

No one seriously doubts any more that the walls are coming down. The argument is whether Congress, federal courts, or state regulators should get to sound the trumpet, and when. Some members of this Committee just want to set a date. A calendar cannot substitute for a rule book, Vice President Gore replies. But a comprehensive rule book is already in hand. It covers connections between long-distance companies and local.[11] AT&T and MCI compete head to head for Sprint's six million local phone customers without problem. It covers connections between local phone companies.[12] AT&T trusted these rules enough to spend $17B on McCaw. The rules, set out in hundreds of pages of the Federal Register and thousands of pages of legal precedent developed under the "equal access" mandates of the divestiture decree address connections for pay phones[11] private switches[12] paging switches and on-line information services[14] They cover access to cable-created video programming[15] utility poles and conduits[16] and 800-number databases[17] New problems undoubtedly will keep cropping up -- hot issues at the moment are number assignments signaling protocols and "co-location" on telephone company premises But these are precisely the kinds of details to leave to industry committees and expert agencies The more Congress tries to micromanage them the worse things get

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[11] MTS and WATS Market Structure, Phase III, 100 F.C.C.2d 860, 877 (1985); Investigation into the Quality of Equal Access Services, 60 Rad. Reg. 2d (P & F) 417, 419 (1986).

[12] Inquiry Into the Use of the Bands 825-845 MHz and 870-890 MHz for Cellular Communications Sys., 86 F.C.C.2d 469, 496 (1981), modified, 89 F.C.C.2d 58, 80-82 (1982), further modified, 90 F.C.C.2d 571 (1982); The Need to Promote Competition & Efficient Use of Spectrum for Radio Common Carrier Servs., 2 F.C.C. Rec. 2910 (1987), 4 F.C.C. Rec. 2369 (1989). See Kellogg, Thorne and Huber, Federal Telecommunications Law (Little Brown 1992 & Supp. 1993) §13.3 (hereinafter FTL); Report and Order and Notice of Proposed Rulemaking, Expanded Interconnection with Local Telephone Company Facilities, 7 F.C.C. Rec. 7369, 7381 (1992) (special access); Memorandum Opinion and Order, 9 F.C.C. Rec. 5154 (1994) (switched access). See FTL §12.12.

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[11] Policies and Rules Concerning Operator Serv Access and Pay Telephone Compensation 6 F C C Rec 4736 (1991) *See FTL supra* note 10 §5 3 1

[12] Furnishing of Customer Premises Equipment by the Bell Operating Companies and the Independent Telephone Companies 2 F C C Rec 143 (1987) *on recons* 3 F C C Rec 22 (1987) *petition for review denied* *Illinois Bell Telephone Co* v *FCC* 883 F 2d 104 (D C Cir 1989) *See FTL supra* note 10 §10 7 3

[13] Amendment of Part 21 of the Commission's Rules with Respect to the 150 8-162 Mc/s Band to Allocate Presently Unassignable Spectrum to the Domestic Pub Land Mobile Radio Serv by Adjustment of Certain of the Band Edges 12 F C C 2d 841 *recons denied* 14 F C C 2d 269 (1968) *aff'd sub nom* *Radio Relay Corp* v *FCC* 409 F 2d 322 (2d Cir 1969) *See FTL supra* note 10 §13 3 3

[14] *See* Amendment of §64 702 of the Commission's Rules and Regulations (Third Computer Inquiry) 104 F C C 2d 958 1080-86 (1986) *vacated on other grounds* *California* v *FCC* 905 F 2d 1217 (9th Cir 1990) *See FTL supra* note 10 §§11 6-11 9

[15] 47 U S C A §548(b)

[16] Pole Attachment Act of 1978 Pub Law No 95-234 *codified at* 47 U S C §224

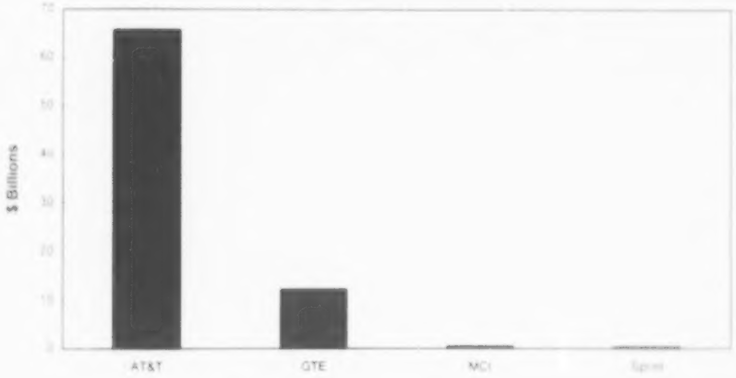
[17] Provision of Access for 800 Services 6 F C C Rec 5421 (1991)

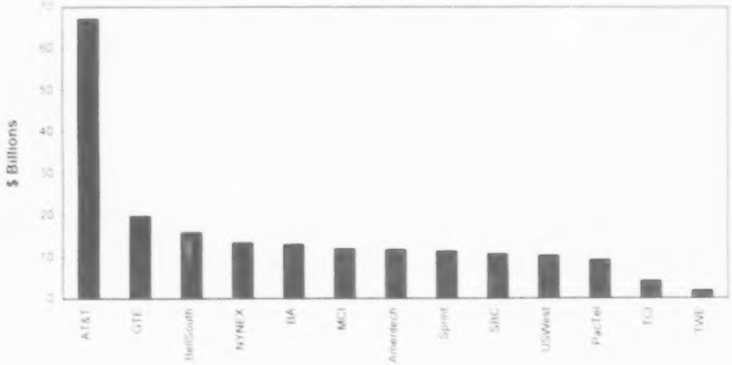
FCC Interconnection Rules

Long Distance Carriers[1]	1985
Information Service Providers[2]	1986
Cellular Carriers (Type II)[3]	1987
Customer Premises Equipment[4]	1987
Competitive Access Providers[5]	1992

1 MTS and WATS Market Structure, Phase III, 100 F.C.C.2d 860, 877 (1985). 2 Amendment of §64.702 of the Commission's Rules and Regulations (Third Computer Inquiry), 104 F.C.C.2d 958, 1080-86 (1986). 3 The Need to Promote Competition & Efficient Use of Spectrum for Radio Common Carrier Servs., 2 F.C.C. Rec. 2910 (1987). 4 Furnishing of Customer Premises Equipment by the Bell Operating Companies and the Independent Telephone Companies, 2 F.C.C. Rec. 143 (1987). 5 Report and Order and Notice of Proposed Rulemaking, Expanded Interconnection with Local Telephone Company Facilities, 7 F.C.C. Rec. 7369, 7381 (1992); Memorandum Opinion and Order, 9 F.C.C. Rec. 5154 (1994).

It's equally clear that today's telecom providers can fend for themselves. When the wall between telephony and broadcast was erected in 1934, AT&T towered over the infant broadcast industry. Today, NBC is a subsidiary of General Electric; together they earn $62B a year, in the same league as AT&T's $67B. When the wall between telephony and cable was erected in 1970, cable was one-fiftieth the size of AT&T. In 1982, when the Bell decree restrictions were drafted, MCI was a tiny thorn in the side of enormous AT&T; today MCI's $12B in revenues exceed SBC's ($11B) and PacTel's ($9B). MCI is now 20 percent owned by British Telecom ($20B). Sprint ($11B) is joint venturing with TCI ($4B), Comcast ($1B), Cox ($3B), France Telecom ($24B) and Deutsche Bundespost Telekom ($35B). US West ($10B) is allied with Time Warner ($15B) to provide phone service to the latter's seven million cable subscribers outside US West's home territory. These companies can take care of themselves.


Total Operating Revenues (Year End 1982)


Total Operating Revenues (Year End 1993)

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Many of the labyrinthine structural barriers in our telecom industry today were put in place by policy-makers who embraced the views of a deeply pessimistic British socialist. He in turn had formed his opinions about the telecom industry in the 1930s in the shadow of Stalin and Goebbels. George Orwell's Nineteen Eighty-Four is still magnificent literature -- so magnificent that I pirated a lot of it in my own recent book Orwell's Revenge. But as analysis or prophecy, Orwell's vision is worse than useless. When Orwell's great novel was published in 1949, his "Ministry of Love" -- Big Brother's ultimate telecom monopoly -- was already in decline. Congress enacted its first (and only) comprehensive federal telecom law in the 1930s as well.

It's time for a new one. In today's environment, the best way to promote competition is to permit it.

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The CHAIRMAN. Mr. George Gilder, Senior Fellow, The Discovery Institute, we would like to hear your testimony. If you could summarize—each of the panelists, the suggested ground rules today are if you can summarize your statement, we will put your entire statement in the record.

If you could summarize it in 5 minutes, we would much appreciate it, so we will have time for questions.

STATEMENT OF GEORGE GILDER, SENIOR FELLOW, THE DISCOVERY INSTITUTE

Mr. GILDER. Thank you very much, Senator Pressler.

I want to congratulate this committee for taking major steps forward toward what I believe and what The Discovery Institute is estimating to be a $2 trillion opportunity for the U.S. economy.

During the 1980's, the convergence of new technologies, led by the microchip, and the general mood of deregulation and tax reduction yielded a $1.5 trillion advance in the asset values of American companies, in real terms.

I believe that these technologies are accelerating today, and that with a full opportunity for deregulation, we can have at least $2 trillion in new asset values of American corporations created by the turn of the century. I think that is a feasible goal, if true deregulation is enacted.

My theme has always been listen to the technology. Here we talk about perusing, but the technology doubles its cost-effectiveness every 12 months. That is the pace of technological change today.

Every time this technology is blocked, or its natural fulfillment is stifled, you lose many of the benefits of this doubling of technology cost-effectiveness.

So I think that there is not time to waste. Time costs money. Time can cost trillions of dollars of lost opportunities for the U.S. economy over the next decade.

This is a technology of sand, oxygen, and aluminum, which are the three most common substances in the crust of the earth.

This is the microchip, a silicon sliver the size of your thumbnail, inscribed with a logical pattern as complex as the street map of America, switching its traffic in trillionths of seconds.

We are soon going to have billion transistor chips. A billion transistor chips could contain 16 super computers on it, or 41 telephone company central office switches on it. This kind of technology will be available shortly after the turn of the century.

This is a technology that wants to be free, it wants to be universal, and it can be, if this huge edifice of obsolete regulations can be removed.

I think something crucial to the information superhighway is that a true competition be permitted. And true competition is not competition that keeps all the existing contestants on the field.

If we have deregulation, and 5 years from now we still have RBOCs, and long-distance carriers, and cable companies, and broadcasters, all these categories in the current zoo of communications, we will have failed desperately, because this technology demands an integrated broadband network, with no such distinctions between long distance, and short distance, and video, and voice, and all these distinctions dissolve in the digital bit streams of the new era.

Now, there are two issues that have been much of a concern for this committee, and one is universal service. Now, I believe that over the last 50 years, with various cross subsidies, and mandates, and special reserves, we have now achieved something near universal service in the telephone industry, that is to say, there is 95 percent of American households with telephone service.

Meanwhile, the technology itself, lowering the price of a variety of products, particularly components in television sets and enhancing their capabilities, has produced 98 percent coverage for television, with no requirement for universal service.

Moreover, just last summer, General Motors Hughes and Hubbard Broadcasting produced a direct broadcast satellite system that created utterly universal service across the whole country far superior to any service delivered by cable companies anywhere today.

In other words, cable, last year, re-regulated as a monopoly, this year is desperately fighting for its life from direct broadcast satellite service that is far superior in every respect, audio quality, resolution coverage, everything. And it is absolutely universal. Rural areas get better service today than urban areas.

And the same thing is happening in digital wireless telephony. Digital will reduce the cost of wireless telephony tenfold over the next three or 4 years, and it will completely close the gap between the costs of serving rural customers and urban customers.

The technology will do it, Senators, and, frankly, perpetuated regulations will not. Thank you.

[The prepared statement of Mr. Gilder follows:]

Testimony of George F. Gilder,
Senior Fellow, Discovery Institute
before the Senate Commerce Committee
March 2, 1995

SUMMARY

New technologies are overthrowing the logic of regulation and offering Americans a much improved life. The "law of the microcosm" and "the law of the telecosm" are responsible for an economic transformation that provided over a 1.5 trillion dollar stimulus to the US economy in the 1980's -- as research by Michael Jensen at the Harvard Business School shows -- and that can provide a two trillion dollar boost to the present, languishing economy of the 1990's. The nascent telecosm also will empower individuals and families in work, education, entertainment, medicine and even politics. But innovations such as the "teleputer," which can be adopted within three years, will be delayed an additional five to seven years if Congress fails to de-regulate the field of telecommunications now. A "freedom model" of de-regulation would allow all existing companies--and new ones yet to be created -- to buy and sell and enter each others' businesses without undue government interference or delay, granting only common carrier status in return. It would remove restrictions to cross ownership of cable and telephone lines. It would not force companies to separate their functions unnaturally -- and unprofitably -- in subsidiaries and it would not impose delayed entry schedules and other invidious tests upon competition; and it would not demand universal service or other unnecessary and hidden entitlements. Central to new technologies

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such as the teleputer is establishing broadband connections to the home. Cable TV companies are under tremendous pressure by DBS (Direct Broadcast Satellite) and will fail to survive unless Congress frees them to find new uses for their connections. Regional telephone companies also are being threatened by new technologies, and need cable TV broadband connections to the home. These existing private concerns, and others that may be created, offer the means to enter the telecosm without government subsidies or guarantees. But they cannot make the needed investments if a restrictive regulatory regime makes the changeover unprofitable

Universal service is another example of how technological change continually defies government's ability to manage issues of equity or efficiency through regulation. At a time when all voice telephony is rapidly moving to wireless, new digital cellular systems soon will lower the price of wireless telephony tenfold and totally close the gap between the costs of serving rural and urban customers. Once again, the freedom model is most in the public interest, while regulation threatens to thwart progress.

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Testimony of George F. Gilder,
Senior Fellow, Discovery Institute
Before the Senate Commerce Committee,
Washington, D. C., March 2, 1995.

Congress' Two Trillion Dollar Opportunity

Mr. Chairman and members of the Senate Commerce Committee, thank you for inviting me here today during what is a golden, though probably brief, moment of opportunity for the American economy and civilization. Thanks to the nature of new technologies and a dawning political awareness that these technologies have overturned the [illegible] of regulation, Congress has the chance to free American industry to lead the world into what I have called the "telecosm." Ahead is forming an environment of unprecedented hospitality for individual creativity, family authority and economic growth. What this telecosm requires from the government now is bold deregulation -- a freedom model -- of telecommunications.

Should Congress fail to adopt a freedom model and persist in the illusory hope that government can shape the future through regulation, America will lose up to two trillion dollars of new economic activity -- stock market values, incomes and job growth. Specifically, unless telephone and cable companies are allowed to merge or directly collaborate with one another to create fiber optic systems and digital services in the phone companies' existing territories, and unless entitlement subsidies and other artificial regulatory requirements are ended quickly and decisively, financial

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obstacles to investment will delay introduction of the pending communications revolution by five to seven years. Not only will our languid economy lose the massive two trillion dollars stimulus I am predicting, but America also will lose its worldwide leadership in telecommunications.

I arrive at the two trillion dollar estimate by comparing opportunities for high technology advances in the 1990's with those of the 1980's, as illuminated by research conducted by Michael Jensen, recent president of the American Financial Association, and his students at the Harvard Business School. Jensen's research reveals how a deregulated environment aided in the industrial revitalization that produced such new or reorganized companies as McCaw, TCI, MCI, Time-Warner, Disney, Turner, and Viacom, and gave a one and a half trillion dollar boost to the US economy. An even stronger opportunity awaits the field of telecommunications.

In several books and articles I have described the "law of the microcosm" which ordains that the price-performance of microchips rises by the square of the increase in the number of transistors on a single chip. Thus, distributed single-chip systems grow exponentially more efficient than centralized multi-chip machines, epitomized by the mainframe computer. It is this law of the microcosm that has revolutionized technological change in the past fifteen years, and through it, our economy.

Now the law of the microcosm is converging with the "law of the telecosm." This law ordains that the value and performance of

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a network of computers rises apace with the square of the increase in the number of computers linked to it. As these forces fuse, the world of computers and communications rides an exponential rocket.

Among the wonders awaiting us in the telecosm is, for example, a "teleputer" that combines, in one unit, interactive video and telecommunications. It will replace today's televisions and telephones and lend the users access to a vast world-wide network of other teleputers: mass communication when desired, but, more often, highly personalized entry to libraries of texts, libraries of films, Internet-style forums, teleconferencing from home to home or home to office, interactive distance learning, virtual family gatherings, telemedicine and huge new business markets -- all brought within the reach of ordinary Americans, not just the rich. By making the choices we want, moreover, rather than the choices someone in a studio or bureaucracy wish to impose upon us, the frustrated American citizen will gain new authority and enthusiasm about his ability to affect his work, entertainment, education and even his government. For merely one small example: just as C-Span circumvents broadcast producers and brings certain events in Congress directly to viewers, in the telecosm the viewer will decide on his own which floor action and which of many committees to "attend" via his teleputer -- including hearings like this one.

Participation in the telecosm will be affordable for ordinary citizens. But the initial structural investments will be large for the system developers. The most expensive part of the conversion to the telecosm is establishing broadband connections to millions and millions of homes, where, not coincidentally, the bulk of the new personal computers are to be found. Fortunately, the United States, almost alone in the world, already has these connections in place in the form of cable TV.

But cable TV is not likely to survive long in its present state. New technology -- DBS (Direct Broadcast Satellite), in this case -- is going to blow away the existing cable companies unless Congress permits them to operate freely. Currently, cable is a classic example of outdated government regulation wrongly premised on the danger of monopoly. Cable's hope is to find a new use. And that new use, in fact, is available, thanks to the needs of telephone companies -- whose own monopoly of local service is already disappearing, also in the face of new technologies. Telephone companies require a way to enter the home to provide broadband connections to the teleputer and other services, but duplicating cable's connections is an obvious waste of years of time and hundreds of billions of dollars. New technology thus closes off old monopoly advantages and opens opportunities for free market collaboration.

Bringing broadband digitally switched services over cable wires to the home will still require investments of $100-300 billion, but these can be and should be provided by the private sector, without government subsidies or guarantees. There is no knowing in advance which companies will succeed in the telecosm and it is futile and counterproductive for government to guess. The once-legitimate concern about communications monopolies has

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been silenced by the centrifugal force of the computer chip. Bigness no longer assures success in telecommunications, and trying to protect one industry or company against another when no one can tell which one will [illegible] -- in any case, will only make the needed investments unpromising financially and set back the movement into the telecom by five to seven years, well into the 21st century. On the other hand, if Congress will stop focusing on how to fine tune regulations and focus instead on eliminating them more completely, we can have the teleputer and similar revolutionary devices within the next three years, which -- I might mention -- is within the [illegible] of many of you in this room. The secret, as Cal Tech Professor Carver Mead says, is to "listen to the technology."

The futility of regulation is further underscored by the likely creation of new companies outside any presently foreseen regulatory framework. Either these information service newcomers will have a government-sanctioned advantage over regulated companies or the government will find a way to draw the newcomers into its regulatory grasp -- and perhaps with them, whole previously unregulated areas of the economy, such as computers and software.

Government regulation supposedly claims to protect competition, of course, but it is the kind of competition where nobody wins and nobody loses. Such guarded competition will prevent the restructuring and profit incentives that must be available to make large investments possible. Only competition that permits robust rivalries will bring the teleputer and other inventions on line swiftly.

Mr. Chairman, last year I was concerned that the Congress was still trying to develop a regulatory regime based on an outdated belief in natural monopolies in telecommunications. But, this year I am more hopeful, particularly after production of the discussion draft advanced recently by Republican members of this Committee. Now, indeed, it seems that almost the whole federal government, including the Executive Branch, is beginning to hum the music of telecom's deregulation. But it is not altogether obvious that all of them have bothered to learn the words. One test of whether claims of deregulation are valid is to see whether a proposed law has been adjusted to acknowledge emerging technologies or whether it still tries to force new technologies to fit old government regulations. Even the admirable discussion draft the committee majority produced, I think, should be examined in this light.

For example, consider the issue of universal service. The basic problem of universal service is that with current wireline telephony and cable TV, it costs many times as much to serve rural customers as urban customers. But, new wireless digital technologies have overthrown this problem. At a time when all voice telephony is rapidly moving to wireless, new digital cellular systems will soon lower the price of wireless telephony tenfold and totally close the cost gap between rural and urban customers. This removes the need for either cross subsidies or universal service requirements.

Meanwhile, as I mentioned, Direct Broadcast Satellite (DBS) already delivers service superior to cable TV with supreme universality across the entire continent and completely discredits the idea that cable TV is a monopoly or that hundreds of channels of video will be restricted to favorite areas.

All these examples of technology rendering regulations obsolete should lead us to the conclusion, then, that the only sound telecommunications policy is the freedom model. A freedom model would allow all existing companies -- and new ones yet to be created -- to buy and sell and enter each others' businesses without undue government interference or delay, granting only common carrier status in return. It would remove restrictions to cross-ownership of cable and telephone lines. It would not force companies to separate their functions unnaturally -- and unprofitably -- into subsidiaries. It would not impose delayed entry schedules and other invidious tests upon competition. And, of course, it would not demand universal service or other hidden entitlements.

A freedom model, however, would restrict the powers of state public utility commissions to regulate investment and depreciation rules, to ensure rate re-balancing and pricing flexibility. Both cable and telephone companies should be free of pricing restrictions to encourage investment and to eliminate the current cross subsidies that discourage competition and the introduction of new services. Mr. Chairman, the freedom model of de-regulation is not likely to be any company's or industry's first choice. Each, of course, would like to preside over a government-protected monopoly and to enjoy government

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restrictions on its competition. That is human nature. But since you cannot possibly grant special advantages to everybody, it would seem logical that free and open competition should be accepted as each lobby's second choice. But for the public interest, I would suggest, the freedom model should be acclaimed as the logical first choice -- and adopted, accordingly, by this Committee and the Congress.

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The CHAIRMAN. Mr. Clay Whitehead, President of the Clay Whitehead Associates.

STATEMENT OF CLAY T. WHITEHEAD, PRESIDENT OF CLAY WHITEHEAD ASSOCIATES

Mr. CLAY. Thank you, Mr. Chairman. It is a pleasure to be here with you and your colleagues today. The last time I appeared before this committee was some 20 years ago, when I was director of the Office of Telecommunications Policy in the Nixon Administration.

In thinking back over the intervening years, and how I might be of use to you, I thought it might be useful to recall the shape of things when I began to wrestle with telecommunications policy back them.

Twenty-five years ago we had the Bell System, an entity that not so much dominated telecommunications, as it was telecommunications, three television networks that dominated the television industry, a fragmented community antenna television industry, a small two-way radio business, and a fledgling monopoly satellite industry.

Some of this structure had evolved from the technology and economics of the past, but most of it, frankly, had been cast in concrete by obsolete legislation and regulation.

The presumption in those days, which has persisted in some quarters even to today, was that complex technology, spectrum limitations, and capital requirements combined to make telecommunications inherently a monopoly industry.

But technology was even then beginning to erode the foundations of that assumption, but even so, competition and telecommunications were seldom found in the same sentence.

Many of us thought that that could be changed. And at OTP we quickly set our sights on replacing the old paradigm with a new one. Our goal was, in part, pragmatic.

We believed that competition and open entry would encourage more rapid development of new services, with lower costs that were more responsive to consumer needs.

We also had a philosophical goal. We believed that regulation of telecommunications was particularly pernicious, in that governmentally-fostered scarcity foreclosed in the electronic media the freedom and creativity that we have had in the print media, and that it promoted governmental control of electronic content.

By current standards, our agenda was primitive. Our Open Skies policy of open entry in competition in the U.S. domestic satellite services business served two purposes. It was a precursor, or pilot project, for implementing competition among long-distance carriers, and it provided an economical means of distributing television across the country, removing one of the barriers to competing with the big three television networks.

We supported financial syndication rules, prime time access, and cable copyright revisions to encourage competition in the television programming business, and to allow cable to become, in economic practice, a medium of channel abundance, rather than channel scarcity.

We proposed the repeal of the Fairness Doctrine and the deregulation of radio to show that much of the content-based regulation of the FCC was unnecessary and counterproductive.

We supported the reopening of the anti-trust case against AT&T, because the sheer power of the collective Bell System at that time precluded any significant introduction of competition or open entry through regulatory or legislative measures.

We built a case that a breakup of the Bell System was in the public interest, that it was feasible technically and economically, and we persuaded Justice that the monopoly power lay in the local service monopoly rather than in manufacturing.

We opposed the rapid growth of the Corporation for Public Broadcasting, and supported the creation of PBS controlled by the local stations, because we believed that cable and satellite technology in a free-enterprise environment would bring about the channel abundance that would make Federal funding of CPB unnecessary.

Since those prehistoric days we have seen remarkable progress in telecommunications. With the benefit of 20-some years of experience, we can say clearly that competition works: In a free enterprise environment, technology promotes competitive energies, not monopoly power.

Open entry works: No group of companies is uniquely qualified to provide any given service, and we have seen the most progress in this industry in those sectors where we have allowed open entry.

And the First Amendment works: In a competitive open-entry environment, the expansion of channel capacity, computer networks, and customer choices provide an open market in which creativity and free speech can flourish.

Mr. Chairman, as one who has struggled in the past with the issues and the pressures that are now before you and your colleagues, I would like to narrow my remarks to a few key principles.

First, do not try to chart the future of this industry. Try to enable it. The industries we lump under the telecomm label are awash in uncertainty, technical, economic, cultural, and regulatory.

We have learned the hard way, though, that well-intentioned attempts to reduce uncertainty through regulation inevitably create more uncertainty than they remove.

The best thing the government can do, the best thing this Congress can do, is to get rid of the regulatory uncertainty in telecommunications by enabling the industry and users alike to get on with their business.

Second, go for the long run. I know you are being presented with many different positions about many different issues, but look at the remarkable agreement there is on the big picture.

Everyone now accepts that telecommunications should be governed by open entry and competition. Telecommunications cuts across many lines of manufacturing services and applications, and across every element of our society. It should be a big tent, and your regulatory focus should be on the long-run future.

Third, keep it simple. The more complex the legislation, the more often you will have to address new legislation. The more often you intervene in the industry, the more often you will be asked to intervene.

Set a framework based on those enduring principles of competition and open entry, allow a little time for the industry to get used to the idea, and get out of the way.

Fourth, get the courts out of regulation and back into adjudication. Judges are even worse regulators than Senators, Representatives, or commissioners. [Laughter.]

Judicial tests of competitiveness as a precondition of open entry only invite outrageous arguments and add to the uncertainty. It would be far better to set a time certain for open entry and deregulation.

Fifth, let the telecommunications industry be a business. We have a healthy body of contract, corporate, and common law that can more readily and flexibly absorb the complexities of this industry in many cases than could regulatory agencies.

By legislating for the long run with relatively simple rules for competition and open entry, you can provide a framework that will let telecommunications be a business responding to the customer.

Finally, Mr. Chairman, do it now. We have had too long with temporizing solutions, too long with contrived regulatory patches. We are on the verge of unprecedented innovation and creativity in this industry.

The companies in this industry are prepared to invest billions of dollars over the coming decade, and all they want is a little relief from the regulatory uncertainty that confuses the industry.

You and your colleagues are philosophically in accord with that agreement and off to a good start. It has been 60 years since we have had such a consensus on telecommunications policy, and 60 years since we have had a comprehensive communications act. I urge you to give us a new one in this session of Congress.

The CHAIRMAN. Thank you.

[The prepared statement of Mr. Whitehead follows:]

Summary of Testimony of **Clay T. Whitehead** before the Senate Committee on Commerce, Science, and Transportation

March 2, 1995

Much has changed since I was Director of the Office of Telecommunications Policy during the Nixon administration. Twenty-five years ago, we had:

- The Bell System.
- The three commercial television networks.
- A fragmented community antenna television (CATV) industry.
- A small industrial two-way radio business.
- A monopoly satellite industry.

The presumption in those days was that complex technology, spectrum limitations, and capital requirements combined to make telecommunications inherently a natural monopoly or, in the case of broadcasting, an oligopoly. But technology was beginning to erode the foundations of this assumption. We set our sights on replacing the old paradigm with a new one, and our agenda was primitive by current standards:

- Open entry and competition for U.S. domestic satellite services and other specialized carriers.

- Changes in broadcasting and cable television rules to allow cable television to grow into a new medium of channel abundance.

- Deregulation of radio broadcasting and repeal of the Fairness Doctrine to show how that FCC regulation of broadcast programming was unnecessary in a competitive environment.

- Building the case that a break-up of the Bell System was feasible and persuading Justice that the monopoly power lay in the local service monopoly rather than in manufacturing.

- Supporting the creation of PBS in anticipation that cable and satellite technology would bring about the channel abundance that would make federal funding of CPB unnecessary.

With the benefit of twenty-some years of experience, we can say clearly: Competition works. Open entry works. And the First Amendment works.

I would like to restrict my prepared remarks to a few key principles:

Go for the long run.
Don't try to chart the future, try to enable it.
Keep it simple.
Let telecommunications be a business.
Get the courts out of regulation and back into adjudication.
Do it now. The 104th Congress has a great opportunity.

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The CHAIRMAN. Mr. Henry Geller, Communications Fellow, the Markle Foundation.

STATEMENT OF HENRY GELLER, COMMUNICATIONS FELLOW, THE MARKLE FOUNDATION

Mr. GELLER. Thank you, Mr. Chairman. I would agree with what Tom Whitehead just said, do it now, or whatever the Nike slogan is.

It has been an antiquated law, based on railroad regulation in the last century. You have been trying for 20 years to repair it and have not succeeded, with the exception of the wireless area.

The courts have been much too much involved, and all this has meant that telecommunications cannot make a maximum contribution to efficiencies, and they are needed in this era of global competition.

It cannot make a maximum contribution to the quality of life, education, health care, and so on. I have cited in my statement the Counsel of Economic Advisors' estimate of what it means in jobs, in investment, in growth of the gross domestic product, and it is huge.

Ironically, there is an agreement on the basic principles, and you have heard it again and again this morning, and that is, open entry and facilitating full effective competition.

That means for newcomers, access. First remove the barriers to entry. And for the incumbents it means removing the barriers in the modified final judgment and in the cable/teleco area in the 1984 Act.

As for facilitating competition, for the newcomers it means the access provisions that have been talked about so much, effective interconnection, unbundling, resale, local member portability, dialing parity, and so on.

For the incumbents, it means pricing flexibility to meet the competition, re-balancing prices so you give off sound economic signals, and doing universal service, which remains crucial, in the way that it is competitively neutral. And this letting in, letting out has to be roughly symmetrical.

Now, these principles are to be implemented by the FCC and the States, and I agree with what Ken Gordon told you, I think that while Congress and the FCC may steer, the States have to do the heavy lifting here.

I do think that there needs to be a Federal captain, however. The FCC not only should be able to forebear from regulating when effective competition results, because after all, that's the thrust of all this legislation, but it should also be able to preempt the States and the localities, so where there is effective competition, there is no cartel management, there is no further regulated competition.

There is also a very difficult issue of the time certain that has come up again and again this morning. I share the view that it is a good idea to use such a time certain for both the letting in and the letting out process.

These issues are very contentious, and experience has shown that they can go on for years and years and years in administrative proceedings.

Looking at your bill, you do have a time certain for letting in, 15 days, 135 days, and then the interconnection decision is over in 10 months.

There is 1 year for removing the barriers and probably another year for working it out, and if there is a dispute, governmental intervention and resolution of it within that 2-year period.

Once you have done that, you can do the letting out then in the same way. That is why, while this may not be an optimum way to proceed in theory, in view of the way these things have festered year after year after year, that we have never been able to put them behind us, have never gotten open entry and full contribution by all the competitors, I think it is time to cut the Gordian Knot, and I welcome what you have proposed on that score.

Secretary Irving this morning said the trouble with the time certain is that it may be too soon or, too late in letting them out. After the hearing you will have to determine what the appropriate period is, 18 months, 2 years, 3 years, whatever it is.

But that does not mean they cannot get out sooner. If Nynex or Illinois Bell show that they have met these access conditions, and they have to show it, I agree, in the actual doing of them—for it is one thing to file tariffs that look good in theory, it is another thing to work them out in negotiations—but if they do that, they ought to be able to get out sooner. But in any event, you ought to have some cutoff here, because you have a cutoff also on how long the letting in can go on.

On the last matter, there has been a lot of analogies made to what happens in several areas. I would urge you to look at the information service area.

I really think that there is an apt analogy to that, what we went through in 1987 to 1990. The safeguards here have to be include additional ones, like one plus dialing or resale.

But in the information service area, as Peter Huber said, the RBOCs were let in, the monopoly remained, but with safeguards, and I think the public interest has been served.

I want to mention the spectrum area. You have proposed to give flexibility to the broadcasters, and that is good, but you ought to direct the FCC to go through and give flexibility throughout the spectrum, subject to interference rules of the road.

And finally, I would urge you to extend the auctions, which have been very successfully carried out by the FCC, to everything but to the public safety area. Extend them to broadcast.

The broadcasters are about to move to digital advanced television. That is fine. the broadcaster deserves one-six megahertz authorization free. But whatever the six megahertz that he does not use, it ought to be subject now to auction.

Thank you.

[The prepared statement of Henry Geller follows:]

Summary of Statement of **H. Geller**

Telecom reform legislation is urgently needed in this session of the 104th Congress. If it is not obtained this year, the stultifying stalemate will continue, since legislation is then most unlikely in the second session, an election year. This failure to change an antiquated law will disserve the national interest.

It will mean that telecom will not be enabled to make a maximum contribution to efficiencies that all our industries need in this era of global competition. Telecom will not then make a maximum contribution to the quality of life in the information society --education, health care, and democratic processes.

A consensus has emerged as to the guiding principles of open entry and promoting full, effective competition. Those principles should be applied to both newcomers and incumbents, and the letting in-letting out process should be implemented in a roughly symmetrical fashion.

In light of past experience, there is the danger that the most contentious issues will fester for years in administrative proceedings. To insure that such "gaming the process" does not unduly delay open entry and full effective competition, there should be some cut-off or date certain, with the appropriate time period (e.g., 18 months, two or three years) determined by Congress after hearings. There will be no industry consensus on these contentious issues, and therefore it is up to Congress to cut the Gordian Knot.

Statement of Henry Geller before the Committee on Commerce, Science, and Transportation on Telecom Policy

I am a Communications Fellow with the Markle Foundation and a Senior Fellow at The Annenberg Washington Program of Northwestern University.[1] The letter of invitation requested that I address the need for Congressional action on telecommunications policy reform in the current session of the 104th Congress. I greatly appreciate the opportunity to address this most important issue.

First, telecom policy reform is vitally needed in the national interest. The technology is extraordinaly dynamic, and the private investment markets seek to respond quickly to technological developments with new service applications. The third leg of the stool, government policy, must keep pace with these two driving factors. Unfortunately it has emphatically not done so.

With exception of the recent wireless amendment, the nation is still operating under the 1934 Communications Act, which is based on railroad regulation of the last century. The regulatory agencies, federal and state, struggle under this antiquated regime. Much too much is left to the courts, and the courts are a poor, indeed an inappropriate, place for overarching policy development. That is not their proper role.

For 20 years -- a full generation -- Congress has sought to revise the Act and failed. That failure means that the

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[1] The views that I express here are my own and not those of any organization with which I am associated. The views are also disinterested; I am not employed or associated in any way with any of the private parties involved in the telecom debate.

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telecommunications cannot make a maximum contribution to efficiencies that all our industries need in this era of global competition. It means that telecom cannot make a maximum contribution to the quality of life of our citizens in the information society that is emerging so strongly -- in education, health care, energy conservation, and in the very democratic processes upon which our nation is based.

Last summer, the Council of Economic Advisers issued a report on the projected contribution to the gross domestic product (GDP) as result of telecom reform. It estimated that with such reform, the GDP would increase about $1 billion over the next decade; that there would be $75 billion in new private sector investment in telecom products and services in that period; that the telecom sector would nearly double in size relative to the economy as a whole, accounting for about 17% of the GDP (as against 9% today); and that in the crucial area of jobs, employment would increase from 3.6 million workers today to more than 5 million in 2003.[2]

As a result of Congressional and Administration efforts in the last Congress, there is general agreement on the basic principles of such reform. First and forement are the bedrock principles of open entry and of promoting full, effective competition. That means for newcomers removing state barriers to entry into local telecommunications -- for incumbents, removing the cable-telco restriction in the 1984 Cable Act and the restrictions in the

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[2] See Telecommunications Reports, June 20, 1994, at 24-25.

Modified Final Judgment (MFJ) that prevent the Regional Bell Operating Companies (RBOCs) from entering interexhange service (IX) and manufacturing.

As to facilitating effective competition, that involves for newcomers the interconnection, unbundling, resale, local number portability, dialing parity, etc., conditions in the draft legislation. For the incumbent, it means pricing flexibility to meet the new competition, rebalancing prices so that sound economic signals are given to the competitors, price incentive regulation, and reforming the evolving universal service concept so that it is administered in an equitable and competitively neutral fasion in the new competitive milieu. And this letting in-letting out process is to be achieved in a roughly symmetrical fashion.

These principles are to be implemented by the FCC and by the states, with the FCC steering and the states doing the rowing. Further, the draft bills wisely give the FCC the right to forbear from regulating, if it determines that effective competition has been achieved in some sector. This is of critical importance: the goal over time is to move the telecom sector into the same deregulated state as now exists in the computer (data processing) field, with which it is merging. If effective competition is achieved, further regulation is nothing but cartel management and would be inimical to the national interest. I also suggest that as the Federal captain, the FCC should not only have the power to forbear, when it finds effective competition, but it should also be able to preempt continuing state or local regulation.

There is also a growing view (in which I share) that in light of past experience, the most contentious issues, such as RBOC entrance into the IX field, will fester for years and years in administrative proceedings, just as these issues have festered here on the Hill; and that therefore there should be a cut-off -- a time certain -- when "gaming the process" ends and the nation really has full, open entry -- when all sectors of the telecom industries are allowed to make their full contribution to efficiencies and the quality of life. What that time limit is -- 18 months or two or three years -- is a matter for Congress, after appropriate hearings.

What must be stressed is that there will be no industry consensus that will aid Congress in the resolution of these contentious issues. As the late Senator Magnuson so aptly put it, "all each industry seeks is a fair advantage over its rivals." Each industry wants prompt relief so that it can enter the others' fields, but at the same time wants to avoid the pain of new competition in its own field by tactics that will delay that competition as long as possible. It is therefore up to Congress to make the tough calls and in effect cut the Gordian Knot.

If you fail to do so this year, the odds are very high that it will be most difficult to obtain such breakthrough legislation in 1996, an election year with a shorter session. So the 104th Congress would also pass into history, leaving the same antiquated law on the books. For the reasons I have stated, this would constitute a serious blow to the national interest.

It also makes the U.S. look ridiculous. Other nations like Japan, the U.K., and several in the European Union have moved to reform their national laws in the face of the drastic changes now confronting telecom. The U.S. seeks to be a leader in the Global Information Infrastructre (GII) undertaking -- yet would be seen as unable to revise its own basic law to conform to the GII principles.

This Congress has an historic opportunity to end the stultifying stalement and to enact the telecom reform that is long overdue. I urge you to seize that opportunity.

I have obviously oversimplified and have not covered many of the other important issues in this complex area. I have attached documents that I have submitted to the Congress or to the Department of Justice that flesh out my views in greater detail.[3] With Committee's permission, they could be placed in the record of this proceeding.

Thank you again for the opportunity to address this most important matter.

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[3] The attached January 4, 1995 letter of the Alliance for Public Technology (APT) to Chairman Pressler reflects my views on telecom reform. I am an APT Board member and participated heavily in drafting the telecom reform section.

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purposes only

January 4, 1995

Senator Larry Pressler
United States Senate
Washington, DC 20510

Dear Senator Pressler,

Along with many other interested entities, the Alliance for Public Technology (see enclosed brochure for description) believes that passage of telecommunications reform legislation would greatly serve the public interest. We urge a course that would encourage early enactment of such legislation, which would foster the largest possible investment in the National Information Infrastructure (NII) and ensure all Americans access to advanced telecommunications that support health, education, and other services that promote economic development and enhance the quality of life.

As you know, the largest obstacle to passage of this legislation has been in the area of local telecommunications, where there are today two bottlenecks—the local loop of the local exchange carrier (LEC) and the coaxial drop of the cable television operator. Because of de jure barriers, billions of dollars of private investment in innovative local networks has been held back. As a result of the work of the 103rd Congress, a consensus has been forged on a roughly symmetrical letting in-letting out process. However, the devil is in the details of implementing this consensus. We suggest the following legislative approach:

(i) Specify symmetrical deadlines for the letting in-letting out process: For example, the removal of all state barriers to new entrants within one year of enactment, and the effectuation (by the FCC and the states) of specified conditions facilitating the competition of new entrants (e.g., effective interconnection, unbundling, access to ducts and poles, resale, dialing parity, interim steps for local number portability) within two years. At the end of the same two-year period, or within the two-year period concurrent

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with the removal of barriers and effectuation of the specified conditions, the interexchange (IX) and manufacturing restrictions of the MFJ would be ended, with the RBOCs free to enter these areas, subject to appropriate regulatory safeguards. We use the two-year period as illustrative; hearings could establish the appropriate time period for the symmetrical action. What is critical is that there be this symmetrical deadline, for experience has shown that without it, these issues will fester for years in administrative proceedings. The consensus that has been forged on removal of the MFJ restrictions concerning IX cellular and video distribution or manufacturing, subject to regulatory safeguards, would be implemented upon enactment.

(ii) The LECs today can engage in video dialtone operations (VDT)—a common platform that we strongly support as providing open, non-discriminatory access to all information providers. With the legislation, the LECs should immediately be allowed to engage in local delivery of their own video programming, subject to safeguards, in order to facilitate effective wire competition to the cable television bottleneck. And when cable operators provide a switched, broadband service, they likewise should be required to afford nondiscriminatory access (in place of the present, ineffectual provisions of section 612).

(iii) Regulators should be required to move in an orderly fashion to prepare a fair and open environment for competition by assuring that proper economic signals are given, pricing flexibility is afforded the incumbent to meet competition, incentive regulation is employed, any subsidy scheme is implemented in a competitively neutral fashion, and all telecommunication providers are treated simiiarly regardless of the technology they presently deliver.

APT strongly endorses a Congressional mandate for universal service goals, and urges that enhanced or additional service requirements should evolve over time to achieve an eventual goal of universal, interactive (two-way), broadband network of networks. See section 1(b)(11) of S. 1822 and enclosed vision statement of APT.

This reflects a sound substantive approach. Process is also important. The legislation should make clear that there is a federal captain, the FCC, but that the FCC steers through appropriate rulemakings, and the states do the heavy rowing. Experience has shown that the states have served as innovative laboratories for policy, and have the advantage of "grass roots" regulation geared to their particular circumstances. Since the aim over time is to achieve the goal of effective competition, clearly regulated competition—really cartel management—should be avoided. The FCC should therefore have the power to forbear from regulation (and to preempt any state or local regulation) when it finds that there is *effective* competition in some telecommunications sector.

The above deals with regulatory reform. Non-regulatory governmental action is equally important. APT's commitment is to promote connecting all to all in a system of interactive, broadband networks, so that telecommunications makes a maximum contribution to the quality of life. Thus, upgrading the nation's telecommunications infrastructure will contribute to the democratic process by enhancing the Associated Press principle—that the underlying assumption of the First Amendment is that American people receive information from as diverse sources as possible. The contribution to the environmental and energy areas can be most substantial, and telecommunication's innovative efforts in the fields of education and health care are crucially needed. These are, we stress, appropriate governmental responsibilities.

To give one example, it is important to connect our schools and libraries to the NII, so that learners of all ages have the benefit of high-tech training, distance learning, and access to databases. This is a most expensive undertaking and cannot properly be achieved by actions taken solely within the telecommunications sphere. Rather, it must be properly planned and funded in the educational sector, with assistance from telecom. We therefore suggest use of some significant portion of the spectrum auction funds for this linkage to the NII so that the educational and library sectors would then be in a position to plan and evolve such a salutary scheme.

The delivery of health care services to the home is another critical area in which two-way broadband networks are essential. Deployment of these networks will enable health care professionals to be able to treat their homebound patients with the need to make time-consuming and costly visits to their patients' homes. By the same token, chronically ill patients and persons with disabilities can be spared the need to make office visits—which for many are so difficult that they often forego the visit, with costly long-term consequences to their health and well being.

Further, inter-governmental partnerships with industry should be encouraged by Congress to address problems competitors are likely to encounter in developing and deploying networks to bring the benefits of interactive, multimedia communications to the full spectrum of society. Developing and facilitating applications of the evolving technologies in such areas as education, health care and labor market operations are both socially necessary and critical to achieving almost any promised vision of the Information Age. Yet it is in these community-based applications that the development and aggregation of effective demand may be most difficult to link up with investment decisions of competitors. While the telecom industry should not be expected to assume the full burden of funding community-based applications development, it is in the interest of competitors to work cooperatively with under-funded community agencies and organizations, so as to assess their needs and aggregate demand for applications that can be budgeted or otherwise funded. There is an urgent need, for example, to include in the legislation a Congressionally-mandated FCC-state regulatory partnership with the industry that focuses specifically on market-compatible incentives which are supportive of the industry's responsibility. The primary object of such a partnership should be to encourage competitors even-handedly to develop, as an integral part of their investment strategies for network development and deployment, the community-based interfacing necessary for effective aggregations of demand in socially/community desired areas.

APT urges that 1995 is the critical year for the legislative breakthrough, so much needed in the public interest. We recognize that the legislation is of great import to the contending industries, all of whom seek, in the apt words of the late Senator Magnuson, "a fair advantage over their rivals." We therefore urge that Congress, through the Committee and Subcommittee Chairmen, make clear to all the warring parties that there will be legislation in 1995, with or without consensus agreement. Indeed, such a message, like a hanging, may so focus the minds of the parties that consensus might be achieved.

We hope that the foregoing is helpful to you in the most important task that you have undertaken. The Alliance for Public Technology stands ready to assist in any way that it can.

Sincerely yours,

Susan Hadden
Chair, Policy Committee

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

UNITED STATES OF AMERICA,

Plaintiff,

v. Civil Action No. 82-0192 (HHG)

WESTERN ELECTRIC CO., INC.
and AMERICAN TELEPHONE AND
TELEGRAPH COMPANY,

Defendants.

To: Department of Justice

COMMENTS OF HENRY GELLER, EVERETT PARKER, AND BCFM, ON MOTION OF BELL ATLANTIC CORPORATION, BELLSOUTH CORPORATION NYNEX CORPORATION, AND SOUTHWESTERN BELL CORPORATION TO VACATE THE DECREE

Henry Geller, Dr. Everett Parker, and Black Citizens for a Fair Media (BCFM),[1] submit comments on the Motion of Bell Atlantic Corporation, BellSouth Corporation, Nynex Corporation, and Southwestern Bell Corporation to vacate the decree. We urge that the Department (DOJ) is pursuing the wrong process in its rather leisurely consideration of that request; that it should instead rely upon the "letting in -- letting out" consensus (described in I, *infra*) that has been forged this year on the issue and, in a filing submitted before the year's end, request the district court to revise Section II(D) of the Modification of Final Judgment (MFJ or decree), or grant a general waiver, so as to facilitate the "letting in--letting out" consensus; and that recent legislative experience strongly militates for the soundness of this approach and against sole or too great a reliance on passage of breakthrough legislation. The grounds for this position are briefly stated in the following discussion.

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[1] The commentators are disinterested, having no financial interest of any kind with respect to any of the participants in this proceeding; they have previously participated in MFJ matters.

1. There is a clear governmental consensus for an open entry, "letting in-letting out" process.

First, it is most important to recognize that allowing the RBOCs to engage in IX operations markedly serves the public interest, including from the critical standpoint of promoting competition. The reasons why this is so are set out at some length in the attached statement of commentator Henry Geller before the House Subcommittee on Telecommunications, and will not be repeated here. Suffice it to say that there are great benefits to competition from RBOC entry into the IX field and that it is wrong to suppress the competitive contribution of roughly one-half the telecommunications industry in this crucial area; that with equal access, other appropriate safeguards, and the existence of most sophisticated and alert industry participants, the detriments from such entry are slight, indeed, and that in effect we are engaged in repeating the same process as was done in the CPE and the information services sectors (with, it should be stressed, a successful outcome); and that the failure to act promptly on the clear balance in favor of allowing RBOC entry into IX operations will result not only in loss of the above benefits but a festering problem, particularly as to fair competition for the crucial large business customers.

But the issue before the Department and the court no longer stands alone in light of developments this year involving the Administration's National Information Infrastructure (NII) iniative and the Congressional efforts to enact comprehensive telecommunications reform legislation. The issue of "letting out" the RBOCs has become integrally linked to that of "letting in" competition in local telecommunications. Our comments are directed largely to what we believe is the logical and practical consequence of the clear developments this year and hence the clear course that we believe the Department should promptly follow.

A Martian would be amazed by the present proceeding being conducted by the Department. The Martian would note the following:

(i) The Clinton Administration, at the highest levels, strongly believes that the existing stalemate in opening all levels of telecommunications to full and fair competition must be broken as soon as possible, so that telecommunications is enabled to make a maximum contribution to efficiencies and jobs in this era of global competition and to the quality of life in the information society.[2] The Department, of course, has fully joined in this effort, and has therefore supported the "letting in-letting out" scheme reflected in the main bills in the 103rd Congress, H.R. 3626, H.R. 3636, and S. 1822 (i.e., removing state barriers and facilitating competition through effective interconnection, unbundling of functions, resale, access to ducts and poles, local number portability, dialing parity, etc.).

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[2] See, e.g., The White House Release, Jan. 11, 1994, "Vice President Proposes National Telecommunications Reform"; Council of Econmic Advisers (CEA) Report, on projected contribution to the gross domestic product and jobs as a result of such reform (estimating that with the adoption of the NII principles, the U.S. gross domestic product would increase about $1 billion over the next decade; there would be $75 billion in new private sector

(ii) After the most extensive hearings, a consensus was developed in the 103rd Congress on this issue. The House passed legislation with the "letting in-letting out" scheme by an extraordinary vote (436 to 4 or 5). The Senate Commerce Committee, by an 18-2 vote, adopted essentially the same course. The Senate bill, S.1822, did not come to a vote because of a combination of factors, i.e., the lateness of the session, the opposition of some parties, and the non-negotiable demands of Senator Dole, the minority leader, for a less regulatory approach to telecom reform.

(iii) The FCC, an independent agency, strongly endorsed the open entry, "letting in-letting out" scheme. Most significantly, NARUC also agreed that the states should be required to remove barriers and to facilitate competitive entry.

We fully agree with that approach (see attached statement of Henry Geller before the House Subcommittee). The industry

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investment in telecom products and services in that period; the telecom sector would nearly double in size relative to the economy as a whole, accounting for about 17% of the GDP (as against 9% today), with employment increasing from 3.6 million workers today to more than 5 million in 2003). See Telecommunications Reports, June 20, 1994, at 24-25.

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parties were pushed by Congress to join in the approach, but their agreement is important only to the legislative process (see discussion below, pt. 3), not the judicial forum. Generally speaking, none of the industries involved want competition. The four petitioning telcos here want removal of the IX restriction, but ignore the "letting in" process that was forged in Congress and the Administration. The cable industry wants to be allowed to compete in local telecommunications but seeks to put off telco competition to cable for as long as possible. And the same applies to the IX carriers, the newspaper industry, broadcasters, the alarm industry, etc. As the late Senator Magnuson so aptly put it, "all each industry seeks is a fair advantage over its rivals." We submit that what is crucial here is the consensus of the governmental entities. The industries should, of course, have their chance to comment in the judicial process, and those comments should be carefully taken into account, even if motivated by selfish concern. But partisan opposition is to be expected, and thus should not be controlling.

2. The Department is proceeding today most unsoundly by ignoring the above consensus. Our Martian would observe that the four RBOCs ignored the above consensus in their filing, and the Department is taking up their request in a year-long proceeding, also without explicity reference to the consensus. But at the end of the process, unless the Administration and the Department were to conclude that they have been mistaken -- that there is no need to remove barriers to competition and then facilitate such

competition because the RBOCs today face effective competition in their basic endeavors (a most unlikely and indeed an incredible scenario) -- the Department will return to the consensus scheme as necessary and best serving antitrust policy and the national interest.

On the merits (see pt. 3, infra), it is difficult to predict what the antitrust court will do. While the past statements of the court would indicate an aversion to "letting go" in the IX area, the court must give serious attention to the position of the Department, which is, after all, the moving primary party to protect and promote competition. See Western Electric v. United States, 900 F.2d 283, 297 (D.C.Cir. 1990). The district court in the last decade has indicated its belief that the Department was proceeding in a political fashion in the lowest sense of that term. Id. at 298. But it is clear, and the district court can have no doubt, that the Clinton Administration and Clinton Department are proceeding in a political fashion in the highest sense of that term -- that they genuinely believe that their NII proposals, including full support for the "letting in-letting out" consensus, is much needed in the national interest (see n. 2, supra). The district court has shown an admirable tendency to weigh that interest, as demonstrated by its action in permitting transmission information services in order that the United States not fall behind in this crucial area of global competition. See United States v. Western Electric, 673 F. Supp. 525, 564 (D.D.C 1987). We believe that it might well do so again, if the merits are reached.

3. The Department should move along the above lines in 1994, because it is poor policy to base the entire strategy on obtaining legislation in the next Congress. The final observation of the Martian would be that so far as federal action is concerned (i.e., the "letting out" process), the Administration, the Department, and the court are simply waiting for legislation in the next Congress -- and that is why the Department is content to "burn" another year (which the court granted).

In the meantime, the "letting in" process can continue through efforts of the Administration, the FCC, and the States. Thus, Vice President Gore has stated that there will be a "summit" of local, state and federal government officials early next year "aimed at crafting a comprehensive strategy for local phone competition."[1] See also Telecommunications Reports, October 17, 1994, at 7 ("Working Group Expected to Present Funding Proposal to Gore for State Effort on Telecom Issues"). This State effort "... to accelerate a (state-level) move towards telecommunications reform and the promotion of local exchange competition" (*ibid.*) is commendable and should receive the sound support of the Administration.

The RBOCs will point out, however, that a "letting in" process without any concrete move to "let out" can be disastrous (see attached statement at 4) -- that as the Administration itself recognizes, there must be reasonably symmetrical efforts. Thus, Vice President Gore has "...warned against partially opening up competition -- comparing it to getting across a chasm by leaping in two stages" (see n.2). We would compare it to a country deciding to switch from right hand drive to left hand, and letting the trucks go first. For the "let in" competitors, with the assistance of the interconnection, unbundling, etc., conditions, will focus on the business customers, and it must be remembered that a very small percentage of such customers, most of whom desire one-stop service, generate about 50% of the revenues. If the RBOCs are not allowed to compete effectively for these business customers because they are restricted to the LATA and cannot offer one-stop service, they could end up with a very high percentage of customers (residential) but with what Vice President Gore referred to as a "hollow monopoly" (Communications Daily, Oct. 18, 1994, at 1). So the above sound effort to introduce competition at the local level (which we fully support) should be accompanied by an effective effort to "let out" the RBOCs. There should also be reform to prepare a fair environment for the competition by affording pricing flexibility, moving to price (incentive) regulation, gradually rebalancing pricies to give sound economic signals to the new entrants, and administering the universal subsidy scheme in a competitively neutral fashion.

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[1] Multichannel News, October 24, 1994, at 3.

Certainly Congress should set the guiding "letting in - letting out" policy by amending the archaic 1934 Communications

Act. In that way there will be a national policy rather than having to rely on progress, state by state. And it was certainly most sensible for the district court, the Department, and all other governmental bodies to wait to see if legislation was passed in the 103rd Congress. Indeed, it is sensible for the court to take no action until late in 1995 so that Congress has been given the chance to take up where it left off and pass legislation building on the 1993-94 effort that came so close to fruition. There is, we believe, a good chance of a legislative breakthrough in 1995, just as there was in 1994.[*]

But what we believe to be not sensible -- indeed, to be the poorest policy -- is for the Department and the Administration to place all its eggs in the one basket of legislative reform. For while there is a good chance of legislation in the next Congress, there is, in our opinion, an equally good chance that there will no legislation. The legislation is most complex and seeks to deal comprehensively with the vital and often conflicting interests of powerful industries, with the consequent obvious possibility of stalemate. Take just one possible scenario in the new Congress: Senators Dole and Packwood will clearly have increased weight, and may thus be in position to obtain a "more deregulatory" bill.[5] But such a bill might then be strongly opposed by groups such as the IX carriers, the cable industry, the alarm industry, etc. If Von Clausewitz is right that to win an offensive there must be at least three to one superiority, the "defensive" opposition might well be able to block legislation in 1995 and, almost certainly, then in 1996, a national election year.[6] That would mean that these problems continue to fester and that the national interest suffers because of our inability to put our house in order.

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[*] Thus, Senator Pressler, the incoming Chairman of the Senate Commerce Committee, has stated that "...he intends to push for immediate passage of the telecommunications bill that stalled in the committee this year, possibly with changes to enhance competition." The Washington Post, November 10, 1994, at A30.

In this regard, it should be remembered that the legislative effort began in 1975 and has now consumed roughly a generation of time. AT&T's Chairman stated that the company agreed to divestiture because it was apparent that Congress would never be able to act to set national policy -- that its only chance for relief in the new environment was the antitrust court.[7] It may be again that while Congress this time deserves great praise for its

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[5] See, e.g., Telecommunications Reports, November 7, 1994, at 12-15; The New York Times, November 10, 1994, at D7; The Washington Post, November 10, 1994, at B13.

[6] Significantly, an industry group that includes AT&T, MCI, and the National Cable Television Association "plans to announce efforts to persuade states to remove regulatory barriers that prevent competition in local telephone service...partly in recognition that federal legislation to remove those barriers may fail again next year." The Washington Post, Nov. 9, 1994, at B2. This is a move that parallels the sound efforts of the Administration along the same lines. But surely this raises the obvious question as to what the Administration should do to promote the equally necessary "letting out" process in the event that federal legislation to remove those barriers fails in the next Congress.

[7] See Charles Brown, Disconnecting Bell, at 1-7, H.M. Shooshan, Jr., Ed., Pergamon Press, 1984.

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effort to work out a consensus, only the antitrust court can deliver the goods. Certainly that option should be kept open, so that there is some protection against a pattern that might turn out to be "waiting for Godot." Failure to keep the option open and timely would, in the words of Samuel Johnson as to second marriages, be the triumph of hope over experience.

It follows, we believe, that the Department this year should submit its own version (rather than that of the RBOCs) as to how the MFJ should be reformed -- namely, that if the Department certifies (subject to public comment and challenge) that a State has removed all barriers to competition and the "letting in" conditions which the Department believes are sound have been met[8], the district court will then permit full IX activities by the RBOC in that State.[9] The Department should request that the district court give notice of this proposal and an opportunity for all interested parties to comment on it;[10] that no final action should be taken upon the proposal until late in the first session of the 104th Congress, at which time the Department and others could advise the court as to the need for consideration on the merits. If Congress has acted, that of course ends the matter. But if it is clear that there is to be no legislative breakthrough, the court will then be in a position to take an action which we believe will represent substantial progress and indeed pave the way for further progress.

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[8] As stated, we believe that the conditions in H.R. 3636 are sound, and so also are those added by S.1822. There are problems that must be resolved by the Department initially and the court definitively. For example, while local number portability is necessary, it may be that this process will take a fairly long time, and therefore the RBOCs should be "let out" if reasonable interim procedures are being used and the final solution is well under way. This apparently is the approach of H.R. 3636. The Department clearly should consult with the expert agency, the FCC, in reaching a conclusion on such matters.

[9] This kind of process is already before the Department in the request of Nynex, dated August 25, 1994, for Interexchange Waiver for New York. As indicated in the attached appendix (at), we believe that immediate relief should be afforded in the case of IX activities in connection with cellular or video operations, or in the out-of-region situation.

We submit that there is no downside to proceeding in this fashion. It does not in any way denigrate the importance of Congressional action. Clearly Congress is to be praised for the consensus it forged and to be urged to adopt national legislation. Such legislation would also eliminate the central role of the antitrust court (and the Department as the court's staff), and place the responsibility where it more appropriately belongs today -- on the FCC to steer and the states to do the heavy rowing. The approach we urge should promote such

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[10] It will be particularly important for the FCC and NARUC to submit comments concerning their positions on protecting against improper cross-subsidization through price caps, accounting, and the use of a separate subsidiary. In connection with the latter aspect, see California v. FCC, Case No. 92-70083, 9th Cir., issued October 18, 1994. We believe that a separate subsidiary (SS) should be employed in the case of content information services (where there are no economies of scale or scope as there is no joint equipment, maintenance or marketing); in areas where there are efficiencies, we believe that this is a matter best left to the discretion of the FCC. It may be that the agency should employ the SS approach only if it is indicated by experience (some pattern of RBOC operation that calls for the SS).

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Congressional action by putting pressure on Congress -- by telling Congress that however desirable its overall action is, there is a less optimum but still desirable alternative route that can and will be taken. Significantly, there is the precedent of breakthrough legislation in the airline field following the activities of the CAB.

If the court route is taken in late 1995, the burden will shift to the states. Some like New York, Illinois, California, Michigan, and Washington, will, we believe, promptly move to meet the conditions. This, in turn, will place great pressure on states hanging back, because the states are in fierce competition to attract industry. There will be a snow ball effect that will markedly serve the public interest and, as a practical matter, bring to fruition over time the "letting in-letting out" process reflected in the consensus.

If the district court refuses to follow the above route, appellate review could be sought, with its unfortunate delay. There is, we recognize, no assurance of success. But we stress that the Administration and the Department should make every effort to achieve substantial progress in the regulatory reform that it has soundly identified as necessary in the national interest. The worst course is passivity in the face of dire need.

Respectfully submitted,

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NATIONAL COMMUNICATIONS INFRASTRUCTURE
(Part 3)

HEARINGS

BEFORE THE

SUBCOMMITTEE ON
TELECOMMUNICATIONS AND FINANCE

OF THE

COMMITTEE ON
ENERGY AND COMMERCE
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

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STATEMENT OF HENRY GELLER
BEFORE THE HOUSE SUBCOMMITTEE
ON TELECOMMUNICATIONS AND FINANCE
FEBRUARY 10, 1994

My views on the issues before the Subcommittee are disinterested and my own, not those of any non-profit organization with which I am associated. I shall briefly discuss the general background and the specific issue of the hearing, the provisions in H.R. 3626 relating to Bell Company (BOC) entry into the interexchange (IX) market.

The driving forces here are a very dynamic technology and market, which in turn have led to a convergence of industries and great ferment. Telecommunications policy must keep pace with the two driving forces. Otherwise, the two main goals of governmental policy will not be met: to enable telecommunications to make a maximum contribution (1) to efficiencies because productivity is the key factor in the global competition thaat is now the norm, and (2) to the quality of life in the information society in areas like education, health care, telecommuting, and democratic processes.

To their great credit, the Adminstration and both Houses of Congress are now strongly focussed on revising the 1934 Communications Act. Incredibly that Act looks back to railroad regulation in the 19th Century. Congress and the Administration soundly seek to adopt policies that will manage the transition to the 21st Century.

There also appears to be an agreement within the Federal government (Congress, the Administration, the FCC) on what should be the dominant strategy and goal -- all-out competition.

Competition is the norm in the U.S. because it spurs efficiencies and innovation and drives prices to marginal costs. It has worked brilliantly in the customer premises equipment sector, and has led to rapid modernization in the IX area, with massive investment in fiber optic cable and innovative marketing approaches. In the area of local telecommunications where there is today the greatest focus, competition has already shown its powerful effects in fostering the fiber self-healing rings in the centers of large cities or the accelerated fiber construction response of the local exchange carrier (LEC) to the projected entry of local cable operations such as Bell Atlantic-TCI and Time Warner-U.S. West in the Telesis area. Indeed, a great deal of the heightened broadband activity appears to be supplier driven as large entities "jockey" for position and early advantage.

There is a serious problem at the local level because while several states have been forward looking, many have hung back from adopting the open entry, all-out competition approach. Again there appears to be a strong consensus in Congress, the Administration, and the FCC, on how to deal with that problem. Thus, H.R. 3636 and S. 1822 not only require the removal of state barriers to entry but, even more important, promote such entry through effective interconnection (e.g., co-location), unbundling of functions (e.g., transport, the switch, and the local loop), resale, access to ducts or poles, and local number portability. I cannot stress too much how important it is to provide unbundled access to the local loop. The loop has been the largest bottleneck. Through cable, digital radio and other construction, that bottleneck will surely erode in the future. But for the present, new entrants, while undertaking such construction, can provide full local service by joining their own transport or co-located switch with the LEC's loop. The economies of scale embodied in the loop will thus be available on reasonable terms to the new competitors. I strongly endorse the approach of these bills and regard the implementation of the bill's requirements as the *sine qua non* for BOC entry into IX.

The issue before the Subcommittee is whether, along with this "letting in" process, the BOCs should be let out of their LATA restraints. It is important to keep in mind that this is an *entry* issue -- not one of deregulation. The BOCs will clearly be subject to a great deal of regulation on such matters as unbundling, interconnection charges, co-location, and the prices for basic service elements as to which they still retain market power. I believe that for Congress, this issue of BOC entry into IX, either in or out of region, involves the balancing of benefits and detriments to the public interest or stated differently, to competition.

The benefits are obvious. We are today suppressing the competition of over one half of the telecommunications industry in the important IX sector. It serves no useful purpose to try to evaluate how vital or competitive that sector is today. In this country we do not foreclose entry on the ground that we have

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enough competition. No one can foretell what some new competitor may add as to efficiencies, innovation, marketing, or pricing. Certainly that is true of the entrants here in question, with their resources and great expertise in telecommunications.

Further, the LATA is an artifical boundary that makes no sense in today's dynamic market. It imposes substantial inefficiencies on the BOC operations in the information field (the computer in every LATA), the video field, or in mobile operations. But even were these alleviated, there would still remain the largest inefficiency -- customers, especially business, often want one-stop shopping for services, and the LATA restraint can markedly interfere with the BOC's ability to function in the new market conditions. Ameritech has pointed out that it has lost 75% of its 800-line services in the last four years because of its inability to offer service beyond the LATA in sharp contrast to its competitors who can offer such complete service. These same patterns could be repeated, for example, in the area of intra-LATA toll when, as they should, new entrants obtain 1-plus dialing with pre-subscription.

The issue thus turns on the detriments to competition. In antitrust terms, this calls for analysis whether the BOCs have shown that there is no longer any "substantial possibility" that they might exercise "monopoly power to impede competition in the market [they] seek to enter [IX]" (Section VIII(C) of the MFJ). The Court of Appeals has defined the words "impede competition" to mean the ability to exercise market power by raising prices or restricting output in the relevant market (here IX) (900 F.2d at 291).

If the BOC IX operation is wholly out of region or market, it does not then involve the in-region monopoly and should clearly meet the above test since in such circumstances the BOC could not exercise the above delineated market power.

The more difficult issue is of course an IX proposal that does involve the in-region monopoly operation. There have been very substantial developments since the 1984 divestiture. Equal access has been completed by the BOCs; Open Network Architecture (ONA) has gone forward from its conceptual stage; accounting rules to prevent cross-subsidy have been promulgated; price caps have been adopted, thus substantially reducing any incentive to cross subsidize; and there have recently been FCC decrees expanding interconnection for special access and switched access (i.e., permitting competitors, interexchange carriers (IXCs) and high volume end users to terminate their own facilities in the LEC/BOC central office). Most important, BOC in-region IX operations should be conditioned upon the implementation of the requirements to promote open entry and competition, so that, for example, the bottleneck local loop would be unbundled and available to all upon the same terms and conditions as used by the BOC. Under the Ameritech plan this is accomplished by imputed rates while under the Rochester scheme it involves a separate subsidiary approach. I would leave it to the FCC and the DOJ to resolve the question of efficiencies versus greater

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protection for competitors, but certainly the FCC should have the authority to impose the separate subsidiary requirement if it found, either initially or over time, that it would be desirable to do so.

Further, while these regulatory developments are of great importance, legislation to govern the transition to the next century must also take into account clear trends. The CAPs or ALTs, with their focus on business, do not stand alone today. BOCs have embarked upon a course of competing with one another in local telecommunications, as shown by the plans of the Bell Atlantic-TCI merger and joint operations of Time-Warner-U.S. West (and see also Cox-Southwestern Bell). A pattern that has been quite successful in the U.K is beginning to emerge here. Similarly the IXCs are stirring, with the announced plans of MCI to enter local telecommunications and the merger of AT&T and McCaw. While AT&T insists that the merger does not envision competition to the local loop, it is clear that at some point fairly early in the next decade, if not sooner, cellular/PCS operations will be competitive with the loop. These efforts to compete directly with the loop will not be greatly significant next year or in the very near term. But I believe that the competition will be here sooner rather than later because of the striking competitive pressures, and therefore legislation, while soundly bottomed on the above regulatory scheme, should also take into account these trends.

In my view, therefore, the public interest would be served by

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permitting the IX operations of the BOCs, immediately for out of region activities and in-region upon the above described terms. With the implementation of those conditions, I do not believe that the BOCs could raise prices or restrict output in the IX field, and that is the critical test under antitrust law.

It follows that I strongly favor the above regulatory approach and reject the market share scheme advocated by AT&T and other IXCs. Market share is appropriate when considering deregulation, but not here where the issue is entry. Significantly, AT&T is still subject to tariff and price regulation ten years after divestiture and with its market share now reduced to roughly 60%. The nation can ill afford to leave this issue of BOC entry into IX fester for a similar period.

In this connection, I am puzzled by the approach of S.1822 requiring for in-market IX operations a showing that exchange services are available and taken by a significant number of persons from at least one unaffiliated provider who offers such services "predominantly over facilities not owned or controlled" by the BOC. I believe that if a competitor uses its own transport or switch but makes extensive use of the local loop under regulation insuring reasonable and fair terms, that can be effective competition.

The legislation that I advocate would thus allow BOC entry based upon the implementation of the "letting in" requirements, and would afford great flexibility to the FCC as to the "letting out" process and revised terms and conditions. For example, BOCs might be allowed to resell IX services in-market (perhaps with the additional requirement that several IX carriers be used) even though local number portability, while under way, had not been completed, with facilities operation delayed until the completion of the portability or some other important aspect of the regulatory approach. The legislation would not be unduly detailed nor based on specific time periods (e.g., 18 or 55 months) because experience has shown that in this dynamic field it is much better to set out general guidelines and leave implementation to the expert agency based on changing conditions, with oversight by the Congress.

H.R. 3626 does not follow that approach. It soundly calls for both FCC and DOJ actions in this area, but also is very detailed, contains time delay specifications, and in other ways deprives the FCC of considerable flexibility. Nevertheless, I strongly support H.R. 3626. I do so because I recognize that the IX and other MFJ issues have been by far the most contentious ones in this policy area. H.R. 3626 reflects the difficult compromise that is so often used and so necessary to resolve such vexatious matters, involving the clash of industries and participants. It is most important that the nation resolve the MFJ issues and allow the industries to plan and move ahead based on that resolution. Otherwise, we will not have our domestic house in order, and will suffer in the global competitive era. The two committees, Judiciary and Energy and Commerce, have labored hard and most commendably have reached a result that is assuredly a major and vitally needed step forward.

I hope that the foregoing discussion is helpful to the Subcommittee in its consideration of this important matter. I thank the Subcommittee for this opportunity to appear and set forth these views. There is attached a summary of these views.

SUMMARY

We have soundly opted for open entry and all-out competition as the best strategy to achieve the overarching policy goals. There is also a sound consensus that barriers to entry in local telecommunications should be removed and that such competition should be promoted by a strong regulatory scheme (e.g., effective interconnection, unbundling of functions, resale, local number portability). Unbundling the local loop is of particular importance since that is the local bottleneck.

With the implementation of this regime, letting in competition, the BOCs should be let out of the LATA restraint. BOC provision of IX services will spur efficiencies and serve the public interest. Any detriments would be ameliorated by the strong regulatory regime imposed by the FCC and, more important, called for by H.R. 3636 and S. 1822. The competitive trends also militate for such entry.

In this dynamic field, legislation should set forth general guidelines and leave great flexibility in the expert agency to revise process in light of changing circumstances. H.R. 3626 lacks such flexibility and is both complex and detailed. Nevertheless, it reflects the necessary compromise that is needed in this most contentious area and is a major step forward. I therefore strongly support the bill.

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The CHAIRMAN. Mr. John W. Mayo, Professor of Economics, Department of Economics, University of Tennessee.

STATEMENT OF JOHN W. MAYO, PROFESSOR OF ECONOMICS, DEPARTMENT OF ECONOMICS, UNIVERSITY OF TENNESSEE

Dr. MAYO. Good morning, Mr. Chairman, and members of the committee. Thank you for inviting me to be here this morning to discuss the pending telecommunications legislation. My name is John Mayo.

I am a professor of economics at the University of Tennessee and the 1993 to 1995 William B. Stokely Scholar at the University of Tennessee. I provided the committee with a detailed listing of my credentials.

It is my understanding that I have been asked to come here today, because of my experience in studying telecommunications markets, the industrial organization of the industry, regulation, and general micro/macroeconomic composition of the industry.

Of particular relevance for these hearings, I believe, are four articles that I have co-authored with Professor David Kaserman, who is the Torchmark Professor of Economics at Auburn University.

Two of those articles are attached to my prepared remarks, and the other two I will make available to the committee.

Let me begin by saying that with its consideration of the telecommunications legislation here today, and most specifically the development of local exchange telephone competition, this committee, I think, has an exceptional opportunity to serve the American consumer, to promote economic efficiency, and to ensure global leadership for the United States for some decades to come.

I applaud you Mr. Chairman and members of the committee on your willingness to undertake this vital task, and I urge you to move promptly.

Naturally, I will be happy to make myself available to any or all of you as you consider this pending legislation.

As a close observer of telecommunications legislation to date, I have witnessed a great deal of progress so far. It appears to me that there is a consensus developing regarding the need to foster local exchange telephone competition.

My own analysis of the effects of the spread of competition in telecommunications markets over the past decades provides strong support for your efforts to open local exchange markets to competition. I believe that it will both promote economic efficiency and the development of universal service in this country.

Now, to facilitate the additional work required of the committee, I would like to discuss two points that have resulted from my economic research.

First, because of the regulatory policies adopted over the past decade, and the structural changes that have been implemented now some ten or eleven years ago, the long-distance industry today is unequivocally subject to effective competition.

Second, by following a similar model of tearing down barriers to entry, requiring structural conditions, and constraining the ability to use monopoly power, we can foster the development of local exchange competition, while at the same time preserving long-distance competition.

Let me address each of those two points in a little more detail. First, with respect to long-distance competition, our policy effort in the United States to bring about long-distance competition has, I believe, been a spectacular success.

Indeed, the separation of AT&T from the local exchange bottleneck monopoly facilities a little over a decade ago has resulted in an absolute explosion in the number of carriers and of consumer choice.

Today there are well over 400 long-distance carriers nationwide, and typically, residential customers have between 15 and 30 long-distance carriers from which to choose. The result has been that prices paid for long-distance services have dropped precipitously.

Output and usage of long-distance services have expanded dramatically, and consumers have seen scores of new innovative services in the long-distance marketplace.

I realize that not everyone appearing on this panel today appears to share my assessment of the long-distance industry with respect to its extent of competition. I would, however, suggest that my research indicates that the market is effectively competitive.

Indeed, it is my understanding that, for instance, in 1994, consumers in America received an average of 330 contacts from long-distance telephone companies trying to solicit their business, and some 27 million consumers in America chose—one at a time—to switch long-distance carriers.

That willingness to switch long-distance carriers provides a very, very powerful disciplinary effect on long-distance markets today.

The relevance of that observation, I think, is that it is best not to rush to eliminate any and all conditions on regional Bell-operating companies, when it is precisely those structural conditions of separating monopoly from the competitive segments that have served this country so well for the past decade.

Now, that brings me to another issue, and that is the issue of under what conditions is it appropriate for entry into local exchange markets, and the matter of local exchange competition. Let me turn to that.

The draft legislation by the Chairman, Mr. Pressler, and the ranking member, Mr. Hollings, as I understand it, have a great deal in common when it comes to developing local exchange competition.

My understanding is that both proposals act to reduce barriers to entry into the provision of local exchange telephone service.

I wholeheartedly endorse this as a welcome step toward the day when all telecommunications markets will be subject to effective competition and a choice of providers.

With respect to the conditions for BOC reentry into the interLATA market, my sense is that there are two competing approaches.

The first is what has been labeled as the local exchange competition criterion, which simply requires that BOC reentry into the interLATA market be conditional upon the elimination of significant monopoly power over local exchange telephone service.

The second approach is referred to as the date certain approach. Under this approach, the existing line of business restrictions on BOC expansion into interLATA markets would be removed automatically at a predetermined point in time, that is, the date certain.

The two approaches represent very different policy approaches, with substantively different policy economic ramifications. As a result, it is very important that the correct choice be made.

In the paper that I have attached to my testimony, Professor Kaserman and I examine what we believe are six economically relevant characteristics of the local exchange competition criteria for BOC reentry into the InterLATA market.

In short, what we find is, No. 1, that the local competition criteria prevents the BOCs from pursuing anticompetitive practices in the long-distance industry; No. 2, that it provides an objective market-based standard for BOC reentry into interLATA markets; No. 3, and this is a point that has been misunderstood, I think, is that it does not create barriers to entry.

Indeed, the competition-based criteria is no more a barrier to entry than the Sherman Act is a restraint of trade. The fact that over 450 long-distance firms have entered this market successfully I believe provides very strong prima facia evidence that barriers to entry do not exist in that industry.

Fourth, the local exchange competition criteria provides an economic incentive, as Ms. Bingaman suggested earlier, for the BOCs to relinquish their market power over the local exchange marketplace.

Indeed, to the extent that they are constrained or "locked" in a room, I would suggest that the BOCs have the key to their own release.

Fifth, the local exchange competition criteria minimizes the need for regulatory involvement and micro-management.

Sixth, and finally, it has served successfully to promote effective competition in the long-distance market for the past decade.

My assessment of the date certain approach differs somewhat from the local exchange criteria. You might just take a look at the remarks that I have prepared for a detailed assessment.

The CHAIRMAN. We will place the remainder of your statement in the record, and we will have a chance for some questions.

Dr. MAYO. Thank you very much.

[The prepared statement of Dr. Mayo follows:]

Statement of

Dr. John W. Mayo

Professor of Economics and the
1993-95 William B. Stokely Scholar
University of Tennessee
615-974-6081

Before the
United States Senate
Committee on Commerce, Science and Transportation

March 2, 1995

TESTIMONY OF JOHN W. MAYO
PROFESSOR OF ECONOMICS AND
WILLIAM B. STOKELY SCHOLAR AT THE
UNIVERSITY OF TENNESSEE
BEFORE THE UNITED STATES SENATE
COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION
MARCH 2, 1995

Good morning, Mr Chairman and Members of the Committee Thank you for inviting me to appear before you this morning to discuss pending telecommunications legislation

My name is John W Mayo I am Professor of Economics and 1993-1995 William B Stokely Scholar at the University of Tennessee I have attached to my statement a complete list of my credentials, including the fact that I have served as Chief Economist (Democratic Staff) of the U S Senate's Small Business Committee and have published well over 30 articles and monographs and have recently published a comprehensive textbook on Government and Business The Economics of Antitrust and Regulation I should add that in my years in the profession I have worked for a number of government agencies and private firms, including the Federal Trade Commission, the Tennessee Valley Authority, the Department of Energy, Oak Ridge National Energy Laboratory and the Attorneys General in both Tennessee and Arkansas My appearance before the Committee is, however, on my own behalf

It is my understanding that I have been asked to appear here today because of my experience studying the telecommunications industry its industrial organization, regulation, and general micro and macro economic composition Of particular relevance for this hearing are four recent articles I have co-authored with David L Kaserman, Torchmark Professor of Economics at Auburn University

- Monopoly Leveraging Theory: Implications for Post-Divestiture Telecommunications Policy.
- Long-Distance Telecommunications: Expectations and Realizations in the Post-Divestiture Period.
- Is the "Dominant Firm" Dominant? An Empirical Analysis of AT&T's Market Power.
- Bell Companies Reentry into the Long-Distance Market: The "Local Competition" Versus "Date Certain" Policy Alternatives

My remarks today stem from these pieces and I hope that you will each find time to read them. Let me begin by saying that with its consideration of telecommunications legislation--and most specifically, the development of local competition--this Committee has an exceptional opportunity to serve the American consumer, to promote economic efficiency, and to ensure our global leadership for decades to come. I applaud you, Mr. Chairman and the Members of the Committee, on you willingness to undertake this vital task and urge you to move promptly. I will be happy to make myself available to help whenever you need it as you consider the pending telecommunications legislation.

As a close observer of telecommunications legislation to date, I have witnessed the great progress made so far. It appears that a consensus is developing regarding the need to foster local telecommunications competition. My own analyses of the effects of the spread of competition in telecommunications markets over the past decade provides strong support for your efforts to open local exchange markets to competition. Indeed, my research indicates that there is every reason to believe that opening local exchange markets to competition will promote both economic efficiency and the development of universal service in this country. To facilitate the additional work required of the Committee, I would like to discuss two key points that have resulted from my economic research.

- First, because of the regulatory policies adopted over the past decade, and the structural changes implemented ten years ago, the long distance market today is unequivocally subject to effective competition,
- Second, by following a similar model of tearing down the barriers to entry, requiring key structural conditions, and constraining the ability to use monopoly power, we can foster the development of local competition--while preserving long-distance competition

Let me address each of these points at greater length

Long-Distance Competition

The policy effort of the United States government to bring about long-distance competition has been a spectacular success Since the separation of AT&T from the local exchange bottleneck monopoly facilities a little over a decade ago, we have seen an explosion in the number of carriers and consumer choice Today, there are well over 400 long distance carriers, typically residential customers have between 15 and 30 long distance carriers from which to choose The result has been that the prices paid for long distance services have dropped precipitously, output and usage of long distance services have grown dramatically and consumers have seen scores of new innovative long distance services come to the marketplace

I realize that some of the others appearing here today do not share my assessment of the industry and will argue that the long distance market is an oligopoly with AT&T serving as an anticompetitive price leader My research indicates just the opposite Indeed, it my understanding that in 1994 consumers between the ages of 18 and 49 received an average of 330 contacts by long distance firms and 27 million demonstrated their willingness to shop around by to switching their long distance carrier The point is that both my 12 years of studying this industry and my detailed research attached to my testimony very clearly indicate that the long distance market is highly competitive today

The relevance of this observation is that it is best not to rush to eliminate any and all entry conditions on the Regional Bell Operating Companies when it is precisely the structural separation of monopoly from competitive segments that has served the country so well for the past decade. That brings us then to issue of what condition is appropriate for entry and the matter of local exchange competition.

Local Telecommunications Competition

The draft legislation of the Chairman, Mr. Pressler, and Ranking Member, Mr. Hollings, have a lot in common when it comes to developing local telecommunications competition. My understanding is that both proposals act to reduce regulatory barriers to entry into the provisions of local exchange telephone service. I wholeheartedly endorse this as a welcome step toward the day when all telecommunications markets will be subject to effective competition and choice of providers.

With respect to the conditions for BOC reentry into the interLATA market, my sense is that there are basically two competing approaches. The first approach, which I label the "Local Competition" criterion simply requires that BOC reentry into the interLATA market be conditional upon the elimination of significant monopoly power over the provision of local exchange services. The second approach I refer to as the "Date Certain" condition. Under this proposal, the existing line-of-business restriction on BOC expansion into the interLATA market would be removed automatically at a predetermined point in time -- the "date certain."

These two proposals represent very different policy approaches with substantially different economic ramifications. As a result, it is extremely important that the correct choice be made. A failure to get this aspect of the legislation right could very well jeopardize the tremendous strides achieved over the past decade in promoting competition in this industry.

In the paper that I have attached to the copy of my oral remarks, Professor David Kaserman and I have analyzed what we believe are six relevant characteristics of the Local Competition criterion for BOC reentry into the interLATA market. Specifically, with respect to the **Local Competition Criterion**, we find that it

1. **Prevents the BOCs from pursuing anticompetitive practices in the long-distance market.**

   By permitting entry when consumers have a sufficient choice of local telephone providers to render this market effectively competitive, this policy approach completely removes the potential that the BOCs will use their monopoly power over the local exchange to damage competition in long distance.

2. **Provides an objective, market-based standard for BOC reentry.**

   The condition required for the BOCs to reenter the interLATA market is that the threat of anticompetitive behavior on their part is no longer present.

3. **Creates no regulatory barriers to entry.**

   Indeed the market-based criterion is no more a barrier to entry than the Sherman Act is a restraint of trade. The fact that over 450 firms have successfully entered this market under this policy provides prima facie evidence that it is not a barrier to entry.

4. **Provides an economic incentive for the BOCs to relinquish their monopoly power over the local exchange market.**

   The local competition criterion does not prevent the BOCs from reentering the interLATA market. It merely conditions that reentry upon a showing that anticompetitive consequences will not result.

5. **Minimizes the need for regulatory involvement and micromanagement of the market process.**

6. **Has served successfully to promote effective competition in the long-distance market for a decade.**

otherwise free market process, in the hope that opposing parties will somehow be able to negotiate a mutually agreeable exchange But where the BOC competes with its customers in the long-distance market, such harmonious transactions are extremely unlikely Second, the very ability of either party to appeal to regulators to arbitrate disputes creates added incentives to make strategic use of the regulator's authority to gain a market advantage As a result, the FCC and state commissions can expect to be flooded with complaints, both legitimate and illegitimate, as rivals seek to hamstring their market opponents with this new regulatory apparatus The result will be increased costs, more regulation, higher prices, and reduced competition

6. **The approach of regulating a monopolist that competes against its downstream rivals was applied unsuccessfully for several decades during the pre-divestiture era.**

We have approximately fifty years of experience with regulatory authorities (the FCC and public utility commissions) trying to control the anticompetitive strategies of a fully integrated phone company The fact is that effective competition in long distance did not develop until structural separation was imposed And since that separation occurred, competition has flourished To presume that the FCC or any other regulatory authority will be able to control anticompetitive behavior through arbitration is to ignore fifty years of experience that teaches us otherwise

Let me close by again thanking you for the opportunity to share my views with you

With respect to the **Date Certain** approach, on these same characteristics we find that it

1. **Reinstitutes the threat that the BOCs will pursue anticompetitive practices in the long-distance market.**

   The date certain approach allows the BOCs to reenter the interLATA market before their monopoly power over the local exchange has been dissipated As a result, this policy jeopardizes the current state of effective competition that exists in the interLATA market and, thereby, places consumers at risk

2. **Permits BOC reentry regardless of market conditions.**

   The date certain proposal relies upon a calendar instead of market conditions to trigger a fundamental change in the economic policy applied to this industry Such an approach has no foundation in economic theory or common sense If it were possible to simply legislate an end to all monopoly power on a given date, then we should have done so long ago There would be no need for any of our antitrust laws or other regulatory systems We could simply pass a law that declares no monopoly power will exists after a certain date

3. **Heightens incentives for BOCs to exploit any non-governmental barriers.**
4. **Provides a strong economic incentive for the BOCs to sustain their extant monopoly power over the local exchange market.**
5. **Creates a whole new (intrusive) role for government to become involved in the market process.**

   The date certain proposal envisions that any sort of inter-firm conflicts between the BOCs and the interexchange carriers that might arise as a result of anticompetitive strategies will be smoothly and quickly resolved by the FCC and state commissions acting as arbitrators This aspect of the proposal is particularly troubling for two reasons First, it places government regulators directly in the middle of an

BELL COMPANIES' REENTRY INTO THE LONG-DISTANCE MARKET: THE "LOCAL COMPETITION" VERSUS "DATE CERTAIN" POLICY ALTERNATIVES

by

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One of the principal issues to be addressed by any comprehensive telecommunications legislation is whether and under what circumstances to allow the Bell Operating Companies (BOCs) to enter (or, more accurately, to reenter) the interLATA long-distance market. The 1984 divestiture agreement removed these companies from this market. Indeed, this separation of local exchange companies from the long-distance market was a central feature of the divestiture order. This provision was based on the conviction that effective competition in long distance could develop and survive only if these companies were prohibited from participating in that market. Since then, long-distance competition has flourished, while customers still do not have a meaningful choice of carriers in local markets.[1] Policy makers, then, are considering whether and under what circumstances these firms should be allowed to reenter the interLATA market.

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[1] For a more detailed examination of the evolution of competition in the interLATA long-distance market, see David L. Kaserman and John W. Mayo, "Long-Distance Telecommunications: Expectations and Realizations in the Post-Divestiture Period," in Incentive Regulation for Public Utilities, Michael A. Crew, editor, Kluwer Academic Publishers, Boston, MA, 1994.

Below, we examine two approaches which have been advanced regarding this important issue. The first, which we label the "Local Competition" criterion, simply requires that BOC reentry into the interLATA market be conditioned upon the elimination of significant monopoly power over the provision of local exchange services. This proposal seeks to resolve the problem of anticompetitive behavior by relying upon a market environment that is intolerant of such behavior. While monopoly power persists, structural separation enforces the necessary discipline. And when that monopoly power ceases to exist, the structural separation requirement disappears with it. In this way, the local competition criterion relies directly upon market conditions to signal the relevant change in regulatory policy.

The second proposal is labeled the "Date Certain" approach. Under this proposal, the existing line-of-business restriction on BOC expansion into the interLATA market would be removed automatically at a pre-determined point in time -- the "date certain." Because it is unlikely that there would be effective local competition by the date certain, the FCC and/or state regulators would be required to step in to govern (or arbitrate) the prices, terms, and conditions under which local networks would be opened and competing carriers would be provided interconnection to the local network.

Proponents of the date certain approach claim that it reduces investor uncertainty regarding the regulatory environment and is more in line with free-market principles. Both of these alleged advantages, however, are illusory. If BOC reentry is not conditioned upon market realities, investor certainty will be purchased at the expense of consumer uncertainty. And if removal of a structural restraint requires regulatory intervention in routine market transactions, government involvement in the market process goes up, not down. Thus, contrary to proponents' claims, the date certain proposal actually entails increased uncertainty and heightened regulation.

These two proposals represent very different policy approaches with substantially different economic ramifications. As a result, it is extremely important that the correct choice be made. A failure to get this aspect of the legislation right could very well jeopardize the tremendous strides achieved over the past decade in promoting competition in this industry. And the success or failure of this legislation in preserving and promoting competition ultimately will determine whether consumers win or lose.

Here, we contrast these policy alternatives to determine which is more likely to lead to a fully competitive (and, therefore, fully deregulated) telecommunications industry. We will discuss each alternative and then close with a summary comparison.

The Local Competition Criterion

In order to weigh the relative merits of the two policy approaches, we must first understand the fundamental characteristics of each. The local competition criterion exhibits at least six features that are worthy of note. Specifically, this policy:

1. **Prevents the BOCs from pursuing anticompetitive practices in the long-distance market.** By permitting entry when consumers have a sufficient choice of local telephone providers to render this market effectively competitive, this policy approach completely removes the potential that the BOCs will use their monopoly power over the local exchange to damage competition in long distance. If the BOCs were to enter long distance before then, there is a significant threat that local ratepayers will be used to subsidize predatory pricing of long-distance service. Where this occurs, consumers in both markets are harmed. Local rates are driven toward monopoly levels while competitors are driven from the long-distance market. By preventing such anticompetitive behavior, the local competition criterion ensures that the tremendous strides made in promoting competition in the interexchange market will not be jeopardized by premature removal of the structural separation.

2. **Provides an objective, market-based standard for BOC reentry.** The condition required for the BOCs to reenter the interLATA market is that the threat of anticompetitive behavior on their part is no longer present. It is important to recall that it was the continued exercise of such behavior over a period of many years in the presence of regulatory oversight under the integrated Bell System that led to the structural separation in the first place. There is every reason to expect such behavior to materialize once again if the structural conditions that fostered that behavior are recreated. The local competition criterion ensures that these conditions will not be restored.

3. **Creates no regulatory barriers to entry.** Contrary to what some parties have claimed, the local competition criterion for BOC reentry does not

constitute a regulatory barrier to entry to the interLATA market under any of the widely-accepted economic definitions of a barrier to entry. For example, Nobel laureate economist George Stigler defined a barrier to entry to be a cost that must be borne by a new entrant that is not borne by the incumbent. Clearly, the requirement that the BOCs face effective competition in the local exchange market before entering the interLATA market does not impose the sort of cost asymmetry required to satisfy this definition. Elimination of monopoly power is not a cost-increasing activity. Similar arguments can be made for alternative definitions of the concept of barriers to entry. Indeed, the market-based criterion is no more a barrier to entry than the Sherman Act is a restraint of trade. The fact that over 450 firms have successfully entered this market under this policy provides prima facie evidence that it is not a barrier to entry.

4. **Provides an economic incentive for the BOCs to relinquish their monopoly power over the local exchange market.** The local competition criterion does not prevent the BOCs from reentering the interLATA market. It merely conditions that reentry upon a showing that anticompetitive consequences will not result. Under this policy, the BOCs themselves hold the key to their own release. In fact, because the door is opened as soon as local telephone customers face effective competition, this policy provides an economic incentive for the BOCs to actually facilitate the growth of competition in this market. Thus, the local competition criterion protects competition in the long-distance market by preventing anticompetitive practices and simultaneously promotes competition in local exchange services by providing an economic incentive for the BOCs to relinquish their monopoly positions. It is very much a pro-competitive policy.

5. **Minimizes the need for regulatory involvement and micromanagement of the market process.** The structural separation of the (monopolized) local exchange market from the (competitive) interLATA market puts in place a market-oriented (as opposed to regulatory) mechanism to ensure the provision of nondiscriminatory access to the local network and to prevent anticompetitive conduct in the long-distance market. That is, it establishes a market environment that simultaneously resolves both of these problems. Because the local exchange company (BOC) does not participate in the downstream long-distance (interLATA) market, it has no incentive to discriminate among the interexchange carriers in providing access to the local network. Nor does it have the ability to leverage its monopoly power from the

local market to long distance. And all of this is accomplished without any direct regulatory involvement in the arms-length transactions that occur between these two groups of firms. Thus, this approach relies on market processes, not regulators, to resolve these problems.

6. **Has served successfully to promote effective competition in the long-distance market for a decade.** The local competition criterion has been in place now for a decade, and it has served its intended purpose quite well. Competition in the interLATA market has flourished under this policy, and consumers have reaped tremendous benefits in terms of lower prices, improved service, and expanded choice.[2] This success would not have been achieved in the absence of structural separation.

The Date Certain Approach

To facilitate our comparison of the competing policy approaches to BOC reentry, we examine how the date certain approach stacks up with regard to the same six performance characteristics considered above. Doing so, we find that this policy:

1. **Reinstitutes the threat that the BOCs will pursue anticompetitive practices in the long-distance market.** The date certain approach allows the BOCs to reenter the interLATA market before their monopoly power over the local exchange has been dissipated. As a result, this policy jeopardizes the current state of effective competition that exists in the interLATA market and, thereby, places consumers at risk.

2. **Permits BOC reentry regardless of market conditions.** The date-certain proposal relies upon a calendar instead of market conditions to trigger a fundamental change in the economic policy applied to this industry. Such an approach has no foundation in economic theory or common sense. If it were possible to simply legislate an end to all monopoly power on a given date, then we should have done so long ago. There would be no need for any of our antitrust laws or other regulatory systems. We could simply pass a law that declares no monopoly power will exist after a certain date.

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[2] See Kaserman and Mayo, Supra, Note 1.

3. **Heightens incentives for BOCs to exploit any non-governmental barriers.** By reinstituting the threat of anticompetitive behavior (#1, above) and recreating the market environment that has proven to be conducive to such behavior (#2, above), this policy enhances the incentive for the BOCs to entrench their monopoly power over the local exchange market by any means possible. The effect of this policy is to encourage the BOCs to seek out and exploit whatever barriers they have at their disposal. Thus, by permitting exploitation of non-regulatory barriers to entry, the date certain approach significantly contributes to the prospects for anticompetitive behavior.

4. **Provides a strong economic incentive for the BOCs to sustain their extant monopoly power over the local exchange market.** While the local competition criterion creates an economic incentive for the BOCs to relinquish their monopoly control of the local exchange market, the date certain proposal has precisely the opposite effect. Once the BOCs are told that they will be allowed to reenter the interLATA market on a given date, regardless of the market conditions that exist on that date, they will realize a new strong incentive to protect and even expand the monopoly power they currently possess. Such power will enable them to leverage their monopoly to the interLATA market and, thereby, increase profits, while continuing to exert monopoly control over local markets. Thus, this policy puts in place an incentive mechanism that exacerbates, rather than reduces, the anticompetitive tendencies of these firms.

5. **Creates a whole new (intrusive) role for government to become involved in the market process.** The date certain proposal envisions that any sort of inter-firm conflicts between the BOCs and the interexchange carriers that might arise as a result of anticompetitive strategies will be smoothly and quickly resolved by the FCC and state commissions acting as arbitrators. This aspect of the proposal is particularly troubling for two reasons. First, it places government regulators directly in the middle of an otherwise free market process, in the hope that opposing parties will somehow be able to negotiate a mutually agreeable exchange. But where the BOC competes with its customers in the long-distance market, such harmonious transactions are extremely unlikely. Second, the very ability of either party to appeal to regulators to arbitrate disputes creates added incentives to make strategic use of the regulator's authority to gain a market advantage. As a result, the FCC and state commissions can expect to be flooded with complaints, both legitimate and illegitimate, as rivals seek to hamstring their market opponents with this

new regulatory apparatus. The result will be increased costs, more regulation, higher prices, and reduced competition.

6. **Was applied unsuccessfully for several decades during the pre-divestiture era.** We have approximately fifty years of experience with regulatory authorities (the FCC and public utility commissions) trying to control the anticompetitive strategies of a fully integrated phone company. From the Communications Act of 1934 to the 1984 divestiture, repeated attempts by competitors to gain a significant foothold in this industry were delayed or thwarted by the incumbent supplier, often with aid of the regulatory agency. Effective competition in long distance did not develop until structural separation was imposed. And since that separation occurred, competition has flourished. To presume that the FCC or any other regulatory authority will be able to control anticompetitive behavior through arbitration is to ignore fifty years of experience that teaches us otherwise.

Summary Comparison

The attached sheet summarizes our comparative analysis of the two competing policy alternatives for deciding when and under what circumstances the BOCs should be allowed to reenter the interLATA market. The first policy, the local competition criterion, resolves the problem of anticompetitive behavior, bases regulatory policy on observable market conditions, raises no regulatory barriers to entry, creates an incentive for the BOCs to relinquish their monopoly control of the local exchange network, and minimizes the degree of government involvement in the market process. Moreover, it has worked very well for over ten years to promote the growth of effective competition in the long-distance market. The date certain approach, on the other hand, reinstitutes the threat of anticompetitive behavior, creates a significant change in regulatory policy with no corresponding change in market conditions, provides a strong economic incentive for the BOCs to sustain their extant monopoly power, and creates a new regulatory apparatus that will be directly and actively involved in what would otherwise be a free market exchange. It is distinctly more government, not less. And the history of this industry strongly suggests that serious anticompetitive consequences will result. Ultimately, consumers will suffer the effects of this reversal in the movement toward competition in this industry.

Finally, there is a very important asymmetry in the risks placed on consumers by these two policy approaches. Specifically, advocates of the date certain approach defend their position by arguing that local exchange competition will become a reality by the date specified for BOC reentry to the long-distance market. If this is, indeed, the case, however, the local competition criterion will also be met by that date, and BOC reentry will be allowed under this policy as well. Thus, if competition emerges at the rate anticipated by proponents of the date certain approach, the two policies yield identical results. If, however, competition fails to develop at this rate, then the date certain approach will allow BOC reentry while significant monopoly power over local exchange services remains in force, thereby exposing both consumers and competition to the risks of anticompetitive behavior. As a consequence, there is nothing to be gained and much to be lost by adopting the date certain policy option.

SUMMARY COMPARISON*

Local Competition Criterion	vs	Date Certain Approach
Eliminates the threat of local exchange monopoly being used to harm competition in long distance.		Reinstitutes the threat that local exchange monopoly will be used to harm competition in long distance.
Provides an objective, market-based standard for BOC reentry.		Permits BOC reentry at a predetermined date regardless of market conditions.
Creates no regulatory barriers to entry.		Provides heightened incentive for BOCs to exploit any non-regulatory barriers to entry.
Provides an economic incentive for the BOCs to relinquish their monopoly power over the local exchange market.		Provides a strong economic incentive for the BOCs to sustain and expand their extant monopoly power over the local exchange market.
Minimizes the need for regulatory involvement and micromanagement of the market process.		Creates a whole new (intrusive) role for government to become involved in the market process.
Has served successfully to promote effective competition in the long-distance market for a decade.		Was applied unsuccessfully for several decades during the pre-divestiture era.

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* This summary comparison is compiled from David L. Kaserman and John W. Mayo, "Bell Companies' Reentry into the Long-Distance Market: The 'Local Competition' versus 'Date Certain' Policy Alternatives."

ABOUT THE AUTHORS

DAVID L. KASERMAN is the Torchmark Professor of Economics at Auburn University. After receiving his Ph.D. at the University of Florida, Dr. Kaserman worked for the Department of Housing and Urban Development, the Federal Trade Commission, and Oak Ridge National Energy Laboratories. Subsequently, he has been on the faculties at the University of Tennessee and Auburn University. Professor Kaserman's research interests span the range of applied microeconomics with particular emphasis in industrial organization, antitrust, and regulation. His research papers have appeared in a number of leading economic journals, including the *American Economic Review*, the *Review of Economics and Statistics*, *Economic Inquiry*, *The Journal of Industrial Economics*, the *International Journal of Industrial Organization*, the *Journal of Regulatory Economics*, the *Review of Industrial Organization*, the *Southern Economic Journal*, the *Yale Journal on Regulation*, and the *Journal of Business*. Professor Kaserman has previously co-authored *The Law and Economics of Vertical Integration and Control* (Academic Press, 1983) and *Antitrust Economics* (Irwin, 1985). Most recently, Dr. Kaserman and Dr. John Mayo have co-authored a comprehensive text on *Government and Business: The Economics of Antitrust and Regulation* (Dryden Press, 1995).

Dr. Kasernan has also served as a consultant in antitrust proceedings, including cases dealing with mergers, price discrimination, price fixing, and monopolization. He has also been an advisor on interstate telecommunications policy and has participated in a number of state-level regulatory proceedings.

JOHN W. MAYO is a Professor of Economics and 1993-1995 William B. Stokely Scholar at the University of Tennessee. Since receiving his Ph.D. at Washington University in St. Louis, Professor Mayo has also served as the Chief Economist, U.S. Senate Small Business Committee (Democratic Staff), and as a visiting faculty member at Virginia Polytechnical University (VPI). Professor Mayo's research interests lie in the areas of industrial organization, regulation and antitrust, and, more generally, applied microeconomics. His research has appeared in numerous economic journals, including, the *RAND Journal of Economics*, the *Yale Journal on Regulation*, the *Review of Economics and Statistics*, the *Journal of Industrial Economics*, the *Journal of Business*, the *Southern Economic Journal* and the *Journal of Regulatory Economics*. Most recently, Dr. Mayo and Dr. David Kaserman have co-authored a comprehensive text on *Government and Business: The Economics of Antitrust and Regulation* (Dryden Press, 1995).

Professor Mayo has also served as an advisor and consultant to both public and private agencies including the Federal Trade Commission, the Tennessee Valley Authority, the Department of Energy, and Oak Ridge National Energy Laboratory. In that capacity, Dr. Mayo has participated in a number of regulatory and antitrust proceedings and has testified before the U.S. Senate, state legislative and regulatory bodies, and courts on a panoply of matters, including monopolization, price fixing, mergers, and regulatory pricing policy in the telecommunications and the electric utility industries.

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LONG-DISTANCE TELECOMMUNICATIONS: EXPECTATIONS AND REALIZATIONS IN THE POST-DIVESTITURE PERIOD

David L. Kaserman
John W. Mayo

Incentive Regulation for Public Utilities,
Michael Crew, Editor, (New York, Kluwer
Academic Press), forthcoming. 1994

1. Introduction

While the entire history of the telecommunications industry provides a fascinating case study for any student of government-business relationships, the ten years since the divestiture of AT&T undoubtedly offer the richest decade of social experimentation in the 120-year history of the industry. What began as a decade of theoretical argumentation about the merits of alternative public policies has slowly given way to empirical research that promises to resolve (or, at least, inform) various debates that could not be settled on the basis of theory alone.

Specifically, at divestiture, economists and others expressed conflicting expectations concerning the long-run viability of competitive performance in the long-distance telecommunications market. While some were quite optimistic that separation of long-distance from local service would fulfill the promise of effective competition raised by emerging technological and market forces, others were openly skeptical of the ultimate vigor of competitive rivalry in this market. In addition, some authors expressed concern that, regardless of the ultimate intensity of competition in the long-distance market, impending structural changes might adversely affect other politically important aspects of the industry—particularly local residential rates and universal service.

Ten years later, we are now in a position to appraise the validity of these conflicting views. A considerable amount of evidence now exists that can be used to empirically test the various predictions that were made at divestiture. Such evidence consists of: (1) simple, straightforward observations of how important industry characteristics have evolved in the post-divestiture period; and (2) more rigorous econometric studies of how industry performance has been affected by the various regulatory regimes introduced over the past decade.

Given the experience of this rich ten-year period and the research it has spawned, the purpose of this paper is to trace the evolution of the long-distance industry in light of the conflicting expectations that were voiced at divestiture. Such a retrospective is useful for several reasons. First, while a number of excellent works document the evolution of the industry prior to divestiture,[1] similar treatments of the post-divestiture period have not yet emerged. Second, to our knowledge, no survey of the burgeoning and most recent economics literature on long-distance telecommunications exists. It is hoped that this paper can serve as a springboard for further study of the industry. Third, the considerable degree of cross-sectional (and, increasingly, time series) variation in regulatory policies toward the long-distance industry has provided economists considerable information that can be used to improve our understanding of the causes and consequences of alternative regulatory regimes. Finally, by better understanding the evolution of the industry, it is possible to gain a clearer picture of emerging issues and potential topics for further research.

The paper is organized as follows. Section 2 describes the three principal attitudes that emerged regarding the prospects for market performance following the 1984 breakup. Section 3 then surveys the empirical evidence pertaining to the structure, conduct, and performance of the industry that is pertinent to the various predictions, forecasts, and guesses that were proffered. Next, Section 4 surveys the growing body of econometric studies on the effects of alternative regulatory policies. Section 5 draws important policy implications from the evidence presented and points out some promising areas for future research.

2. Expectations

Telecommunications industry jargon—regulatory, technological, and economic—has always made it difficult to identify and analyze the important issues facing this industry. For the uninitiated, a prerequisite to doing work in this area has been completion of what is, in effect, a short course in a foreign language. Moreover, this particular language is dominated by acronyms. SPIF and SLU, TS and NTS, LATAs, POPs, POTS, BOCs, LECs, IXCs, etc. all mean something to the inhabitants of this industry. The key, of course, is to translate these acronyms and the underlying terminology they represent into meaningful economic concepts.

Sifting through this jargon, we find that, prior to divestiture, the telecommunications industry was characterized by the following basic conditions. First, the Bell System was *the* nation's telephone company.[2] This company operated at virtually every stage of the vertical chain involved in the provision of telecommunications services, ranging from R&D, to manufacturing, to provision of customer equipment, to inside wiring, to local service, and finally to long-distance service. In the provision of long-distance services, the Bell System's supplier, AT&T Long Lines, provided roughly 90 percent of all long-distance minutes of use sold in the United States. While MCI had entered the long-distance market in 1968, the "competitive fringe" to AT&T remained both small and impeded in their expansion plans by the Bell System's control over local exchange facilities. These facilities were (and are) needed by competitors to reach customers and, thus, to compete effectively in the long-distance market. Competition in the provision of long-distance services was truly at an embryonic stage in 1984, on the cusp of AT&T's divestiture.

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[1] See, e.g., Brock (1981), Faulhaber (1987), and Temin (1987).

[2] This is not to say that other telecommunications firms did not exist. Hundreds of independent local exchange companies offered service, as did several budding long-distance providers.

Second, the industry was pervasively regulated at both the state and federal levels. The Federal Communications Commission (FCC) intensively regulated a host of economic decisions normally left to private firms, including pricing, quality of services, and investment. Similarly, state public utility commissions (PUCs) thoroughly regulated intrastate telecommunications operations. The policies and decisions of these myriad regulatory agencies were not generally well-coordinated. As a result, the Bell System was constantly being pulled in different directions in the various jurisdictions within which it operated. The result, of course, was hardly a paragon of regulatory efficiency.

A third key feature of the pre-divestiture telecommunications industry was the pervasive presence of subsidy flows across various dimensions of telecommunications services. Under the complex set of rules known as Separations and Settlements, the pricing of services was driven by fully distributed cost allocations that bore no relationship to economically efficient pricing. Under this system, long-distance service subsidized local service, light users of local service subsidized heavy users of this same service, business customers subsidized residential customers, and urban consumers subsidized rural.[3] The resulting subsidy flows were so complex that, a priori, it was not always possible to say whether a given customer was a net payer or recipient of a telephone subsidy.

In this environment, the Department of Justice filed an antitrust suit against AT&T in 1974. This suit ended in 1982 with a consent decree known as the Modification of Final Judgment (MFJ), which was implemented in January, 1984. The goal of this agreement was to provide the foundation for a "truly competitive telecommunications industry."[4] Toward this end, the MFJ contained three major provisions.

First and foremost, it segmented the industry along product lines, requiring the Bell System to reorganize by divesting the Bell Operating Companies (BOCs) from AT&T. This divestiture was the largest corporate restructuring in American history. Its primary purpose was to divide the industry into potentially competitive and non-competitive segments; although as it turns out, the latter segment contains some portions within which competition appears to be feasible as well.

Second, to accomplish this segmentation, it was also necessary to divide the market geographically. Thus, at the heart of the reorganization plan was the Local Access and Transport Area (LATA) concept. Specifically, the geographic territory served by the BOCs was divided into LATAs, which generally centered "upon a city or other identifiable community of interest." The LATAs' boundaries defined the areas within which the BOCs could provide point-to-point telecommunications service (both local and intraLATA toll). For interLATA calling, long-distance telecommunications companies such as MCI, Sprint and AT&T were to compete with one another. Because intraLATA calling is almost exclusively intrastate, however, the divestiture court deferred to the states on the issue of whether and under what terms to permit competition for toll services within these geographic areas.

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[3] For a more detailed discussion of the evolution of the subsidy mechanism, see Kaserman, Mayo, and Flynn (1990). Also, see Kahn (1984) and Kaserman and Mayo (1994).

[4] AT&T, 552 F. Supp. (1982) at 188.

Finally, the third major provision contained in the MFJ further restricted the scope of BOC activities across the product dimension. Under the agreement, the BOCs are permitted to engage in any activity they choose except: (1) interLATA long-distance services; (2) information services;[5] and (3) the manufacture of telecommunications products or customer premises equipment. All three of these provisions are clearly designed to prevent the sort of monopoly leveraging strategies which were thought to have plagued the industry prior to divestiture.[6]

Expectations—both dire and enthusiastic—surfaced immediately upon announcement of the divestiture agreement. While many economists and policymakers openly embraced the promise of divestiture and long-distance competition, others (including most consumers) simply expressed confusion or skepticism when asked about the likely consequences of the agreement. Some commentators were so caught up in the excitement of the impending change that they inadvertently violated the first law of a successful career in forecasting— they predicted something to come true within their own lifetimes. These prognosticators can be conveniently categorized into three major groups, which we label the Natural Monopoly Advocates, the Universal Service Advocates, and the Competition Advocates. We briefly describe the predictions made by each of these groups at divestiture.

The Natural Monopoly Advocates. This first group of analysts was firmly convinced that the telecommunications industry was a natural monopoly with significant economies of scale within and substantial economies of scope across local and long-distance services. Consequently, the efficient industry structure was thought to be the fully integrated Bell System or its equivalent under another name. As a result, the pro-competitive open-entry policies of the FCC, carried out over the preceding two decades and culminating in the divestiture order, were believed to be a major public policy mistake that would ultimately lead to disaster.

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[5] This feature of the MFJ was the subject of further court action. Consequently, the BOCs are now permitted to provide information services.

[6] The MFJ provides that these line-of-business restrictions shall be removed upon a showing by a BOC that "there is no substantial possibility that it could use its monopoly power to impede competition in the market that it seeks to enter."

Two alternative scenarios were developed to describe the impending doom. Under one, a liberated AT&T would return to its old tactics, employing predatory pricing to drive its emerging competitors from the market, thereby re-monopolizing the long-distance industry. Under the other scenario, AT&T would tolerate its fledgling rivals, protecting them under a dominant firm price umbrella. The result would be a tight-knit oligopoly with tacitly collusive price leadership used to sustain rates well above competitive levels.

Obviously, under either of these scenarios, barriers to entry would have to exist to prevent the sort of self-correcting market forces envisioned by contestability advocates. According to the Natural Monopoly Advocates, such barriers (of both the Bain and Stigler varieties) emanated from several sources. First, the capital costs of constructing a nationwide telecommunications network were thought to be prohibitive. Second, legal difficulties of obtaining necessary rights of way would raise entrants' costs above those of the incumbent and delay if not prevent such construction. Third, economies of scale inherent both in network operation and advertising would also yield a significant cost advantage to the incumbent firm. And fourth, brand loyalty along with AT&T's embedded customer base would create product differentiation barriers that would prevent new entrants from successfully capturing customers and expanding output. Together, these entry barriers were believed to be sufficient to sustain the monopoly or oligopoly pricing strategies described above.

The Universal Service Advocates. A second group of analysts that emerged at divestiture were essentially agnostic with regard to whether the long-distance segment of the telecommunications industry was an integral part of a natural monopoly. Accordingly, they were also agnostic about the long-run prospects for effective competition in the interLATA market. Nonetheless, these parties expressed serious reservations about the ultimate wisdom of the divestiture decision and the policy path it represented. These reservations focused not on the long-distance market itself but, rather, on the apprehension that, regardless of the intensity of competition in that market, substantial harm might be caused in other areas of significance to pubic policy.

Specifically, two closely related adverse consequences were predicted. First, to the extent that competition would materialize in the long-distance market, toll prices would be driven to marginal and (with entry) average costs. It was argued that the result of such competitive pricing would be elimination of the long-standing cross-subsidization of local residential rates. This loss of the capacity to cross-subsidize, in turn, would force local rates to increase dramatically, causing intolerable inequities and unacceptable political consequences. Second, as a result of these local rate increases, subscribership levels would fall, thereby jeopardizing the Holy Grail of telecommunications policy, viz., universal service. Thus, regardless of the ultimate vigor or merits of long-distance competition, the road ahead was perceived to be fraught with danger.

The Competition Advocates. The third group was the pro-competitive/deregulation cheerleaders. This group believed that technological change in conjunction with demand growth had eliminated natural monopoly conditions in the long-distance market. Moreover, they also expressed the opinion that this same technological change had removed any significant barriers to entry into the provision of long-distance services. As a result, effective competition would prevail in this market; and, if regulatory restrictions on pricing and the introduction of new services could be removed, consumers would begin to reap the myriad benefits of such competition.

In addition, the Competition Advocates also argued that local rates and universal service would not be jeopardized by the recommended policy for two reasons. First, the cross-subsidization of local rates by toll, if desired, could be maintained through the carrier access charge system that was put in place at divestiture. And second, such cross-subsidization was not necessary in order to promote and sustain universal service anyway. In fact, it was even argued blasphemously that the traditional system of cross-subsidies might actually harm this policy objective. Consequently, this group openly applauded the divestiture agreement and urged policymakers to move rapidly to deregulation.

3. Realizations

A decade after the divestiture, one might think that the economic consequences of this policy action would now be abundantly clear to all observers. In fact, however, they are not. Nonetheless, the passage of time has generated considerable data that are now beginning to permit empirical investigations of issues that were, in the early days following divestiture, debated exclusively on theoretical grounds. Accordingly, we turn now to a series of industry characteristics to examine how these have unfolded. For convenience, we shall organize our discussion around the traditional structure-conduct-performance taxonomy of industrial organization economics.

3.1. Structure

Two fundamental characteristics of industry structure are vital to gauging the evolution of competition in the telecommunications (or any) industry. First, the nature of entry conditions (that is, the height of barriers to entry and expansion) is critical. Second, it is important to understand the configuration of incumbent firms (i.e., market shares) in the market. We deal with each of these in turn.

Prior to the late 1970s, a principal and formidable source of barriers to entry into the interexchange industry existed in the form of regulatory impediments to entry. Specifically, while entry into the long-distance market began with MCI in 1969, it was not until 1977 that the FCC fully embraced the notion of competition for interstate calling.[7] Even with the endorsement of competition by the FCC, state regulatory bodies remained reticent to embrace competition for long-distance service. Consequently, AT&T's competitors were largely limited to competing only for interstate calls. Subsequent to the divestiture, however, both the FCC and the PUCs have virtually eliminated regulatory barriers to entry for prospective long-distance providers, at least in the interLATA market. Entry requirements for interstate and intrastate/interLATA toll providers are now essentially similar to standard business licensing, with virtually every application for entry being approved by the appropriate regulatory body.

As regulatory barriers to entry have fallen, so have economic barriers. A formidable barrier prior to divestiture existed because potential entrants faced the prospect of having access to the local exchange network denied or provided on discriminatory terms. A key characteristic of the MFJ, however, was to remove any incentive for the local exchange monopolist to favor any one long-distance provider over another (because the BOCs no longer participated in the interexchange market). Moreover, the MFJ explicitly required the BOCs to provide exchange access to all interexchange carriers that was equal "in type, quality, and price."[8] As a consequence of this provision of the MFJ, the BOCs were required to upgrade the access arrangements provided to interexchange carriers so that all long-distance carriers could provide service on a 1+ basis. This "equal access" requirement had the effect of reducing economic barriers to entry by making a vital input available to all long-distance providers on equal rates, terms, and conditions.

From a base of virtually no end offices in the United States that offered equal access at divestiture, over 90 percent of the nation's local telephone lines are equipped with equal access today. The result, in terms of the way that interexchange carriers compete for business, has been dramatic. Indeed, the share of the nation's interexchange traffic that is "nonpremium" (not equal access) is now less than 2 percent. An important consequence of the diffusion of equal access has been the confluence of the basic capabilities of long- distance carriers to offer services to long-distance consumers that are very comparable. The result has been that, despite considerable marketing efforts on the part of long-distance companies, the degree of product differentiation, often thought to be an economic barrier to entry, has fallen precipitously.

Another potential barrier to entry, the degree of capital intensity in production, was also sharply reduced as a result of the MFJ. Specifically, with divestiture, the vast majority of AT&T's capital assets were transferred to the Bell operating companies. As a result, the long-distance industry is no longer capital intense relative to other (unregulated) industries. Today, the largest single expense to

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[7] See Brock (1981) and Faulhaber (1987) for thorough accounts of the evolution of the pre-divestiture industry.

[8] See Section II of the Modification of Final Judgment, United States of America v. Western Electric Company, Incorporated, and American Telephone and Telegraph Company, Civil Action 82-0192, August 24, 1982.

long-distance companies is the purchase of carrier access services, which are obtained on a per-minute-of-use basis from local exchange companies. Thus, in contrast to a typical public utility that is very capital intense, the provision of long-distance services is now characterized by relatively high variable costs.

Finally, it is important to note that while the capital intensity of the long-distance industry has fallen, it is still very expensive to construct a nationwide long-distance transmission network. Moreover, in the case of the construction of a fiber optic network, the assets deployed involve considerable sunk costs. Accordingly, it is tempting to conclude that such costs continue to constitute significant barriers to entry into the long-distance marketplace.

Such a conclusion is erroneous, however, for two fundamental reasons. First, the argument establishes the wrong standard by which to judge the height of barriers to entry. That is, entry barriers should be measured by examining the economic characteristics of costs for the *most likely mode of entry*. Thus, the fact that the construction and deployment of a nationwide fiber-optic long-distance network is costly and involves considerable sunk costs is irrelevant, because that is not the least-cost (preferred) mode of entry. That is, profit-maximizing firms will typically seek to enter markets via a least-cost strategy that minimizes their exposure to losses if the new venture fails. In the case of the long-distance industry, this least cost path of entry does not involve de novo construction of a nationwide fiber optic transmission network but, rather, entry as a reseller. Specifically, a new entrant will typically purchase or lease transmission capacity on an existing network rather than construct its own facilities. The firm can then combine that transmission capacity with its own marketing, functions, and features, to capture long-distance customers. At some point, as the customer base expands, it may (or may not) become economical for these new entrants to begin to construct their own transmission networks, depending upon the price and availability of leased facilities. By waiting to construct their own networks these new entrants are able to (1) delay the expenditure on assets that involve considerable sunk costs while still competing for customers, and (2) minimize the risk that those sunk costs will not be recouped by the ex ante development of a base of customers.

The second error contained in arguments involving network costs as a barrier to entry (and virtually all other arguments that continue to claim the existence of high entry barriers into the long-distance market on the basis of a theoretical examination of industry cost conditions) is that they ignore actual marketplace evidence on entry in the post-divestiture period. An examination of the actual patterns of observed entry and expansion provides overwhelming evidence that both regulatory and economic barriers to entry and expansion are low. For example, in figure 1 we see the time path of the number of interexchange competitors. By 1994, we see that roughly 420 long-distance competitors were vying for the patronage of consumers in the United States. Obviously, not all competitors compete in every geographic location. Nevertheless, it is important to note that, once a long-distance carriers has established a point-of-presence (or POP) in a LATA, it can very quickly begin to provide interexchange service to any specific area within that LATA simply by purchasing carrier access from the local exchange carrier to its POP. As a result, even those areas without a significant number of competitors are assured the protection of competitive pricing by virtue of the ease of entry. Beyond the flood of entrants into the interexchange industry, new carriers have demonstrated that they are quite capable of successfully competing for interexchange customers. In figure 2, we see that the growth rates of presubscribed customers for MCI, Sprint, and "Other Carriers" have been very robust. Given the numerous regulatory and economic developments of the past decade and the magnitude of observed entry, one can only conclude that barriers to entry into the long-distance industry are extremely low.[9]

A second feature of industry structure that is often thought to influence conduct and performance is market concentration, which is driven by the number of industry participants and their market shares. As seen above in figure 1, there are a large

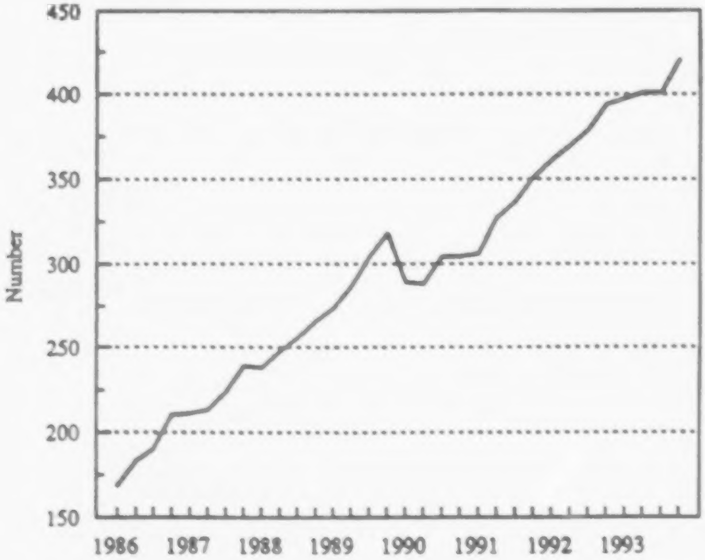

Figure 1. Long-Distance Firms Purchasing Equal Access

Source: *Trends in Telephone Service*, Industry Analysis Division, Federal Communications Commission, May 1994.

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[9] Observed entry and expansion not only demonstrate an absence of significant barriers to entry but also provide prima facie evidence of an absence of predatory pricing.

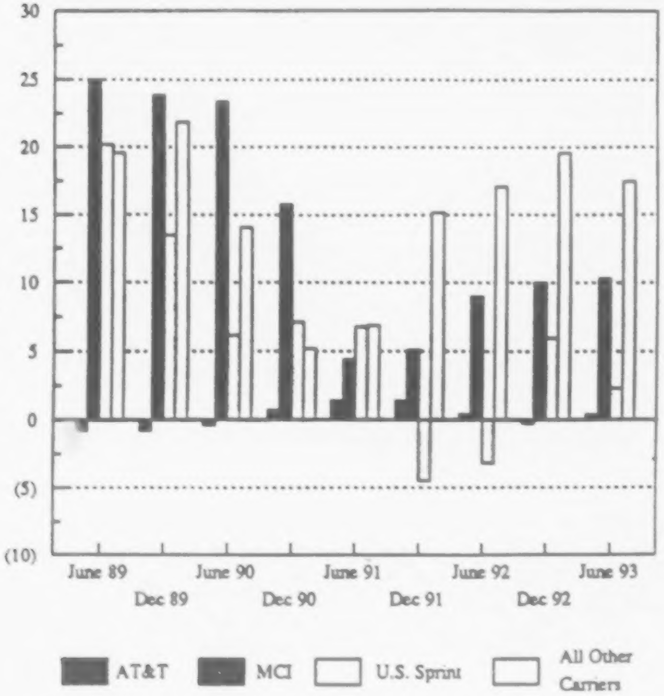

Figure 2. Growth Rate of Presubscribed Customers

Source: Trends in Telephone Service, Industry Analysis Division, Federal Communications Commission, May 1994.

number of competitors in the interexchange marketplace today. Many of these firms, however, do not provide ubiquitous originating service throughout the United States. A survey of the number of long-distance competitors in specific cities, however, is revealing. Table 1 shows the results of a survey of long-distance carriers that were available to residential customers on a 1+ (equal access) basis in September 1993. There, we see that major metropolitan areas typically have between 20 and 30 long-distance firms from which customers may choose. Moreover, table 1 also reveals that even in smaller communities and rural areas, there are typically a number of long-distance competitors from which to select.

Another key characteristic of industry structure is the distribution of market shares—particularly the market share of the largest firm, in this case AT&T. The measurement of market share for the interexchange industry, however, must be

Table 1. Number of Long Distance Carriers in Various Cities and Towns

Major Metropolitan Areas	Population[1,2]	Long Distance Firms[3]
Baltimore	2,382,000	30
Denver	1,623,000	23
New York City	8,547,000	32
San Francisco	1,604,000	25
Milwaukee	1,432,000	22[4]
Salt Lake City	1,072,000	26
Smaller Communities		
Helena, Montana	24,569	14
Moose, Wyoming	100	18
Carthage, Tennessee	2,386	37
Hope, Arkansas	9,643	11

[1] U.S. Bureau of the Census. *Statistical Abstract of the United States: 1991* (111th edition), Washington, D.C., 1991.

[2] U.S. Bureau of the Census. *1990 Census of the Population: General Population Characteristics*, Washington D.C., May 1992.

[3] These are the firms given by the local exchange company business office as offering long distance telephone service on a "1+" basis.

[4] The local exchange company representative indicated that there were 11 "primary" long distance companies chosen by residential subscribers, but that all 22 carriers were available for subscription on a "1+" basis for Milwaukee customers.

approached with caution for at least two reasons. First, the level and time path of market share movements for AT&T reflect not only the normal marketplace rivalries but also the fact that AT&T has been and continues to be highly regulated at both the federal and state levels. Such regulation is likely to distort observed market shares, potentially generating an inference of market power where none exists.[10] Second, while minutes-of-use and revenue-based market share data are more readily available, a more meaningful market share measure is given by the transmission capacities of interexchange firms. Such capacities determine the ability of these firms to discipline any potential attempts by the largest firm to raise prices above competitive levels. Data compiled by the FCC indicate that AT&T's competitors' fiber optic capacity-based market share is in excess of 50 percent.

Equally revealing is the rate of decline in AT&T's market share over time. Regardless of the unit of measurement used, this share has fallen markedly since the divestiture. Figure 3 shows the time path of AT&T's minutes-of-use based market share. This share has fallen from roughly 85 percent in the third quarter of 1984 to approximately 60 percent. This significant decline in the incumbent firm's market share suggests an absence of significant expansion barriers in this industry.

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[10] See Landes and Posner (1981).

Not only have numerous new firms entered the market, but these firms have succeeded in capturing a substantial amount of business away from the incumbent supplier. This evidence, in turn, demonstrates a willingness of consumers to switch suppliers in response to what have, in fact, been relatively small price differentials. Therefore, brand loyalty also does not appear to present a significant hinderance to competition in this industry.

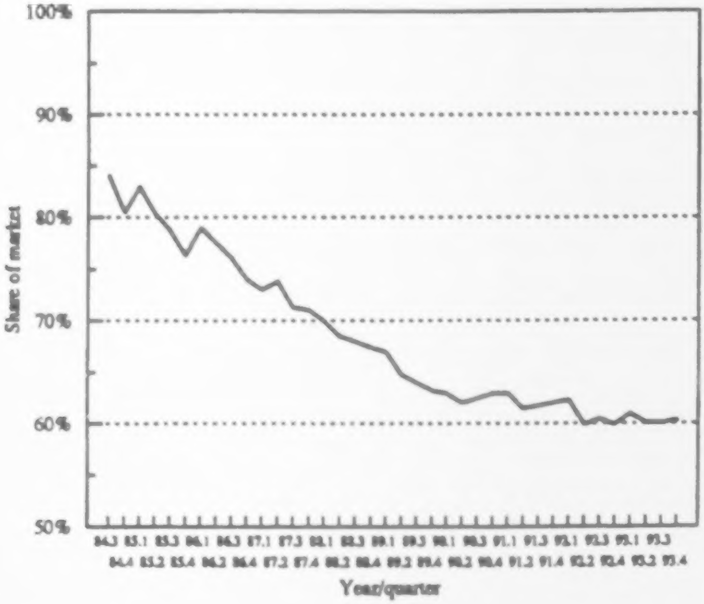

Figure 3. AT&T's Minutes-of-Use-Based Market Share

Source: Trends in Telephone Service, Industry Analysis Division, Federal Communications Commission, May 1994.

Thus, a traditional look at the evolution of market structure in the post-divestiture period reveals an industry with low barriers to entry and expansion and many firms. While the largest firm continues to hold a fairly substantial market share (varying somewhat by which unit of measurement is employed), the ease with which new firms have entered and the success they have had in capturing market share from the incumbent producer strongly suggests that effective competition is both viable and present in this industry.

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3.2. Conduct

As we saw in Section 2, industry observers expressed markedly different expectations about how industry conduct would evolve in the post-divestiture period. In light of these divergent expectations, four dimensions of conduct provide noteworthy insights into the evolution of the industry over the past decade: (1) investment; (2) advertising; (3) pricing; and (4) new service offerings. We consider each of these aspects of conduct in turn.

Recall that some observers argued that, despite the divestiture, AT&T's inherent position of strength would result in a dearth of challengers in the long-distance market. That is, given the considerable size advantage of AT&T over its rivals, it was argued that potential entrants would be unwilling to invest the resources necessary to compete successfully with the incumbent firm. This fear has been completely dispelled on two grounds. First, as we saw in figure 1, a multitude of long-distance competitors have entered this market to compete for the patronage of long-distance consumers. Obviously, potential entrants have not been timid about challenging the position of AT&T. Second, not only have new firms entered, but they have also invested significant amounts of resources to develop interexchange networks that are independent of AT&T.[11] Sprint's leadership in developing the nation's first all-fiber transmission network appeared to catalyze the subsequent dissemination of fiber as the standard in the interexchange industry. Together, the deployment of fiber and expansion of electronic switching have vastly expanded the capacity of long-distance firms to carry interexchange traffic. Thus, aggressive investment behavior has emerged as a major source of pro-competitive conduct in the interexchange market.

Prior to the divestiture, many industry analysts anticipated that the long-distance industry would bifurcate, with AT&T providing a high priced, high quality service and its competitors providing lower priced, low quality alternatives. In the wake of the divestiture, however, competitors soon began to utilize equal access connections made available to them by the local exchange companies to provide service that is approximately (if not fully) equal in quality to that provided by AT&T. And, as noted, Sprint led the industry with the deployment of the nation's first all-fiber network. The result was a metamorphosis in the advertising and marketing strategies within the industry that few had anticipated. Specifically, AT&T's competitors soon began to engage in advertising touting the high quality of their services, while AT&T has countered with advertising emphasizing the competitiveness of AT&T's prices. The advertising rivalry of long-distance firms has increased in recent years, as firms scramble to attract consumers to their particular services.[12]

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[11] Much of the investment in this industry has been in the relatively high sunk-cost technology of fiber optic transmission networks. Such an investment strategy by new entrants suggests that these firms are not leery of predatory tactics on the part of the incumbent producer.

[12] Porter (1993) reports that advertising intensity in the long-distance industry, measured by the ratio of advertising expenses to sales, increased from 1.7 percent to 2.7 percent in the

This sort of interfirm rivalry along both the price and quality dimensions is inconsistent with tacit collusive behavior.

Another important dimension of conduct involves the pricing behavior of firms in the marketplace. Given the pre-divestiture concerns, the most prominent fear regarding pricing was that AT&T would be able to utilize large scale economies to price so that no competitors would challenge AT&T or survive if such a challenge was mounted. This concern is (or should be), at this point, completely gone. As noted, a multitude of challengers have, in fact, surfaced. They have demonstrated beyond doubt that the minimum viable scale (the minimal size at which firms achieve costs consistent with the ability to successfully compete in the market) is quite small.

A second generic concern about industry pricing that was voiced at divestiture is the possibility of collusion—either overt or tacit. If interexchange firms were to engage in collusion to restrict output, raise prices, or in any other way refrain from the normal rivalry of the competitive process, then consumer welfare would be damaged. In the decade following the divestiture, however, there have been no known attempts by interexchange companies to collude. This lack of collusion is, indeed, a predictable consequence of the underlying economic structure of the interexchange industry. Specifically, the large number of carriers, the diverse and ample capacity of these carriers, the volatility of demand and cost conditions, the dynamic character of technology, and the ease of entry and expansion all act to deter the likelihood of collusion.

The pattern of firm pricing has evolved considerably over the post-divestiture era. In the early days following divestiture, carriers without equal access were granted a 55 percent discount on their interstate access charges. Moreover, this discount was generally mirrored in intrastate access charges as well. This discount permitted the new entrants to charge considerably lower rates than AT&T for interexchange services. As equal access has expanded, however, these discounts have eroded, costs have converged, and price differences between AT&T and its competitors have narrowed. See figure 4. Two reasons appear to account for this convergence of prices. First, as the percentage of equal access connections has grown, the underlying differences between the services offered by AT&T and its competitors have shrunk. Most importantly, differences in dialing requirements and signal quality have disappeared. The result is that consumers increasingly view the services of all long-distance carriers as roughly comparable if not completely equal. Second, as non-premium access connections came to an end, the discount on access charges levied on AT&T's competitors also came to an end. The result has been a convergence of costs and, predictably, prices. This convergence of prices and the temporal correlation of prices is also consistent with the evolution of competitive pricing in the presence of increasingly similar cost and reduced product

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1986-1992 period.

differentiation.

In addition, expectations that anticompetitive price leadership would arise in this industry have also failed to prove accurate. Indeed, an examination of the full array of service offerings by interexchange companies and their corresponding time paths of price levels reveals that, while observed prices of competing firms have tended to move more or less together over time, there does not seem to be a uniform pattern of single-firm leadership. Instead, it has not been uncommon for AT&T to change some rates without evoking an immediate response by rival firms, and these other firms have similarly made price changes independent of any change in AT&T's rates. Moreover, regardless of which firm has led and which firms have followed, as seen in figure 4, prices have generally tended to move downward since divestiture. Therefore, whether leadership is present or not, observed pricing does not appear to be consistent with the sort of anticompetitive scenario envisioned by the Natural Monopoly Advocates at divestiture. Also, as we explain below, much of the price changing that has occurred in this industry since divestiture has taken place not through alterations in existing tariffs but, rather, through the introduction of new service/pricing options. And, here leadership has been even less prevalent. Thus, the evidence provided by observed pricing behavior is inconsistent with anticompetitive price leadership.

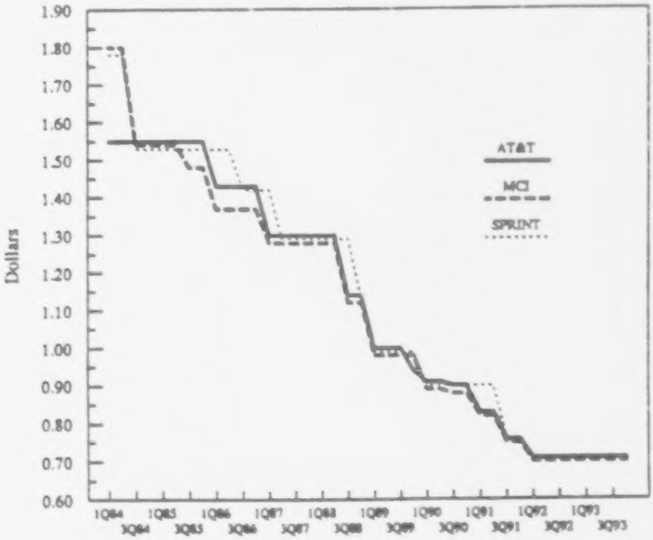

Figure 4. California Intrastate Rate Comparison (5-Minute, 100-Mile Day Call)

Source: Tariff filings, California Public Utility Commission

Finally, the propensity of firms to innovate and introduce new products or services constitutes another important element of industry conduct. In this regard, the interexchange industry has provided a host of positive developments. New services and quality improvements have resulted from significant technological change (e.g., fiber deployment). Such change has led to improvements in the quality of service and creative tailoring of services to customer needs through a proliferation of new service offerings and pricing options (e.g., MCI's Friends and Family). Technological advances have also markedly improved the clarity of calling and reduced blocking rates on long-distance calling over the past decade. Finally active long-distance firms have been rapidly introducing new services into the marketplace. At least two features of this new service introduction stand out. First, the number of new services that have appeared is quite large. Virtually all of these services represent new pricing options that enable customers to lower effective prices below the standard tariff rates. Consequently, the process of new service introduction represents an important vehicle for price competition in this industry; and that competition has been active.[13] Second, the leap-frogging manner in which interexchange companies have introduced new services belies the notion that any one company acts as a consistent leader in the pushing the pace of industry competition.

Overall, then, the traditional indicia of market conduct suggest an industry that is subject to effective competition. Substantial investment programs, aggressive and relatively informative advertising, uncoordinated pricing of an increasingly homogeneous product, and a highly innovative process of new service introductions all point to a healthy and vigorous rivalry between the firms in this market. Thus, the post-divestiture realizations of conduct are consistent with the sort of expectations that one would tend to form on the basis of the structural characteristics described earlier.

3.3. Performance

As noted in Section 2 above, the structural separation of AT&T in 1984 gave rise to a number of concerns about the ultimate performance of the long-distance industry in the post-divestiture period. Of primary importance from a public policy perspective, these questions centered on the price and quality performance of the industry.[14] The past ten years of experience has served to substantially relieve that anxiety for most observers. This experience has shown that, for the most part, consumers have benefitted considerably from the divestiture and subsequent developments in the telecommunications industry.[15]

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[13] This tendency for firms to implement price changes through new service offerings (as opposed to tariff changes) also reduces the likelihood that a successful collusive agreement could be forged in this industry.

[14] While rate design issues evoked considerable controversy in regulatory circles prior to the AT&T divestiture, (e.g., the debate over TELPAK rates was protracted and intense), the overall level of telephone prices was not a topic that generated a great deal of attention. Between 1935 and 1992, the Consumer Price Index (CPI) rose by an average of 4.2 percent annually. In contrast, the CPI for telephone services rose by a modest 2.1 percent annually over this same period. In light of these price changes, the lack of controversy over telephone

These benefits can be seen graphically in figure 5, which shows a comparison of the CPI for all goods and services and the CPI for all telephone services (including local exchange service). There, we see that, in the period immediately following divestiture, the CPI for all telephone services rose more rapidly than the overall CPI but has subsequently shown nominal prices that are generally flat (decreasing real prices). A more focused look at long-distance prices, shown in figure 6, reveals that both interstate and intrastate toll prices have fallen considerably both in nominal and real terms since the divestiture.

While the aggregate CPI price data provide a view of the overall movement of telephone prices, a more readily digestible assessment of price changes for long-distance service is provided in table 2. There, we see the price changes that occurred between January 1984 and February 1993 for a sample of specific routes. For a 5-minute daytime call, nominal prices have fallen significantly over the past decade, typically by about 50 percent.

Table 2. Prices For Long Distance Calls

(Selected City-Pairs, AT&T 5-Minute, Daytime)

	January 1984	February 1993	Percentage Change
New York, NY - San Francisco, CA	$2.70	$1.25	-53.7
Washington, DC - Baltimore, MD	$1.60	$1.10	-31.3
Chicago, IL - St. Louis, MO	$2.14	$1.15	-46.3
Dallas, TX - Denver, CO	$2.34	$1.15	-50.9
Boston, MA - Miami, FL	$2.40	$1.20	-50.0
New Orleans, LA - Houston, TX	$2.27	$1.15	-49.3
Charlotte, NC - Columbia, SC	$2.05	$1.15	-43.9

Source: *Trends in Telephone Service*, Industry Analysis Division, Federal Communications Commission, March 1993.

Aggregate price indices provide a good first pass at understanding the benefits realized by consumers in the post-divestiture period. There are, however, several

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price levels prior to divestiture is probably best understood in the context of Joskow's (1974) paper which argued that as long as overall rates of a utility's service were constant or falling, the most likely regulatory action is inaction.

[15] A notable exception has been the pricing of long-distance operator services by alternative operator service (AOS) providers who contract with hotels, hospitals, and similar facilities to provide long-distance services for individuals at these institutions. On occasion, these firms have been known to charge rates that are several times the levels of the traditional long-distance firms. Their ability to do so, of course, stems from the unique spatial monopoly power held by the hotel, hospital, etc., over access to the long-distance network.

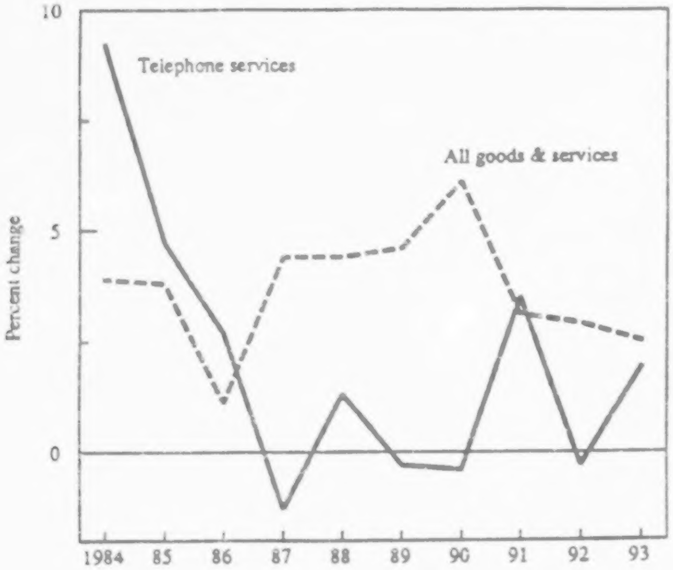

Figure 5. Telephone Price Changes Since Divestiture

Source: Trends in Telephone Service, Industry Analysis Division, Federal Communications Commission, May 1994.

reasons to believe that the CPI-based measures seriously understate these benefits. First, the CPI is a fixed-basket (Laspeyres) index and, consequently, fails to account for changes in the mix of consumption due to relative price changes. The changing price of long-distance service relative to local service together with vastly different demand elasticities for these services have led to dramatic increases in the amount of long-distance calling in the past ten years relative to local usage. The CPI-based measures of telephone prices fail to account for this changing mix of consumption and, therefore, understate the benefits to consumers from their higher consumption of long-distance services at lower prices.

Second, the reported price data are based upon tariff filings (i.e., list prices) and, therefore, fail to account for innovations in pricing that have occurred which better allow consumers to tailor their telephone service to their particular needs. This tailoring of consumer services that is now available through a variety of self-selecting pricing plans means that fixed comparisons like those shown in table 2 are a lower bound on the benefits that long-distance consumers have received.[16] And finally, the data fail to account for the widespread growth of lifeline subscriber plans that reduce considerably the expenditures necessary to connect to the tele-

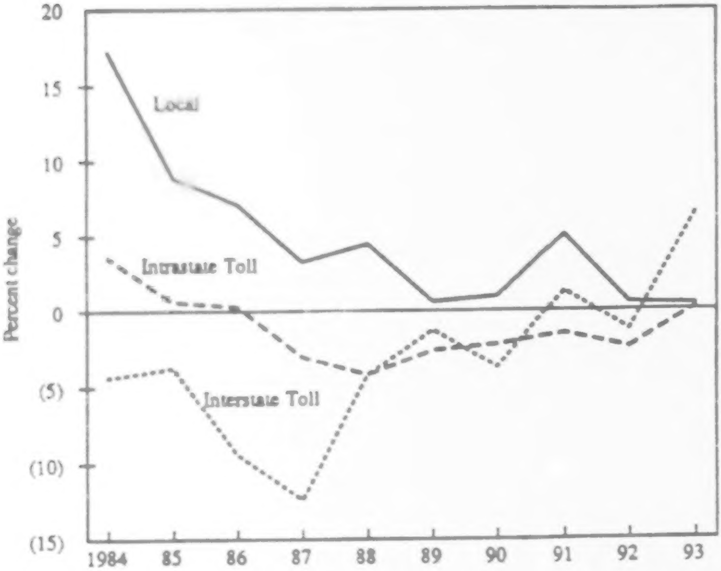

Figure 6. Post-Divestiture Telephone Price Changes

Source: Trends in Telephone Service, Industry Analysis Division, Federal Communications Commission, May 1994.

communications network.[17] Of course, it is not easy to untangle the individual contributions of technology, competition, and regulatory reform in causing the favorable movement in prices.[18] In all likelihood, it is a combination of all three

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[16] This observation is similar to those made regarding the pricing developments in airline and railroad service following deregulation of these industries. For instance, it has been pointed out that it makes increasingly less sense to compare the price of a fulll fare airline ticket for travel between two cities when roughly 90 percent of all passengers fly at discounted fares.

[17] Between 1985 and 1992, 35 states implemented lifeline assistance plans for low-income subscribers. While the details of these plans vary from state to state, they typically offer low-income households a reduced monthly payment for ongoing subscription to the telecommunications network. Also, 48 states now offer assistance to low-income consumers for the installation charges associated with initially subscribing to the telecommunications network. See Federal Communications Commission (1993).

[18] In a recent study of interstate long-distance prices Taylor and Taylor (1993) argue that long-distance price reductions have been primarily driven by access charge reductions. Their analysis, which is based upon CPI price data for telephone services, is subject to all of the caveats noted above.

factors.

In conclusion, an investigation of the evolution of structure, conduct, and performance in the interexchange industry in the decade following the divestiture of AT&T provides considerable reassurance that Judge Greene's goal of creating a "truly competitive industry" has been realized and that the fears expressed in the early 1980s were, in fact, misplaced.[19] The industry has not evolved back toward monopoly; there has not been a mass exodus of smaller firms; there is no indication of tacit collusion, coordinated pricing behavior, or predatory pricing; actual prices have fallen considerably; and neither local rates nor universal service have suffered any apparent harm. Thus, the Competition Advocates appear to have won the forecasting contest.

4. Regulatory Responses

Prior to the divestiture of AT&T, the Bell System was pervasively regulated.[20] With divestiture, Judge Greene sought to establish the foundation for a "truly competitive telecommunications industry." In particular, the goal of the divestiture was to separate that portion of the industry that was thought to still possess monopoly characteristics (i.e., local exchange service) from that portion of the industry wherein it was believed competition could thrive (long-distance). Judge Greene clearly felt that the divestiture agreement would result in the elimination of any monopoly power previously held by AT&T. Specifically, he wrote: "Once AT&T is divested of the local Operating Companies...it will be unable to subsidize the prices of interexchange service with revenues from local exchange service or to shift costs to competitive interexchange services." In light of this, the court concluded that "With the removal of these barriers to competition, AT&T should be unable to engage in monopoly pricing in any market."[21]

Despite Judge Greene's optimistic outlook for competition in the long-distance marketplace, the act of divestiture itself did *not* result in any deregulation of the long-distance industry whatsoever. Instead, AT&T simply inherited the same regulatory structure it had faced prior to divestiture. While there was some initial discussion at the FCC of an early deregulation of AT&T, these talks quickly gave way to a more "studied approach." Indeed, it was not until 1989 that the FCC eliminated rate-of-return regulation of AT&T. And at that time, the Commission still refrained from outright deregulation, choosing instead to implement a Price Cap plan for AT&T that was modeled after the regulatory structure used in England to regulate British Telecom (a monopoly). Under this plan, the Commission established price caps for specific services above which AT&T could not raise prices without explicit Commission approval. Below the caps, however, AT&T is free to price flexibly, raising or lowering prices to reflect market conditions.

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[19] While this conclusion appears to be the growing consensus among economists who have examined the long-distance industry (e.g., Porter (1993), Hall(1993), Ward (1993), and Kahai, Kaserman, and Mayo (1994)), there are dissenters. See, for example, Hausman (1993).

[20] As noted above, it still is, though somewhat less so.

[21] United States v. AT&T, 48 PUR4th 227, 552 F. Supp. at 172 (D.D.C. 1982).

In addition to the ongoing regulation of AT&T's interstate services, each state, through its public utility commission, maintains regulatory authority over intrastate long-distance calling. In general, the states have moved much more quickly and aggressively than the FCC to eliminate traditional public utility regulation.[22] For example, in mid-1984, on the heels of the divestiture, Virginia's public utility commission announced that it was eliminating rate-of-return regulation and granting full pricing flexibility to AT&T for intrastate interLATA toll services. Since that time, most states have implemented reduced regulatory controls for the interexchange industry in general, and AT&T in particular.

Aside from the obvious policy interest in the evolution of competition and pricing for long-distance services discussed in Section 3, industrial organization economists have taken advantage of the divestiture to shed new light on both the causes and consequences of observed regulatory policies. Of particular importance, while pre-divestiture regulatory policy dealt with the monolithic Bell System, post-divestiture regulators now deal at both the state and interstate level with a host of long-distance providers. Moreover, while regulation of the post-divestiture AT&T began on essentially similar ground across the states, the individual jurisdictions have now had ten years to forge their own trails, and many of these have gone in different directions.

This widespread policy experimentation by the individual states has both broad social value and a related but more basic scientific value to economists. The potential social benefits of this sort of state-level experimentation were pointed out by Justice Brandeis who, writing for the Supreme Court over 50 years ago said, "There must be power in the states...to remold, though experimentation, our economic practices and institutions to meet changing social and economic needs....It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country."[23] Moreover, the resulting variation in regulatory policies has also created a fertile field for cross-sectional, and, increasingly, time series empirical analyses by economists on the causes and consequences of alternative regulatory regimes. In the paragraphs that follow, we survey the emerging literature pertaining to three key areas of empirical research involving the post-divestiture long-distance industry.

4.1. Rate of Return Regulation

Following the divestiture and the growth of competition in the interstate and intrastate interexchange toll markets, economists began to argue that conditions were right to eliminate rate-of-return and other direct forms of price regulation as a policy tool in the long-distance industry.[24] After all, such regulation was initially designed to deal with the problem of market failure due to the presence of natural monopoly. In the past 30 years, however, a variety of legal, technological, market, and regulatory changes have profoundly affected the ability of long-distance telecommunications markets to support competition. While evidence regarding the existence of natural monopoly conditions in the pre-divestiture Bell System is mixed,[25] the general consensus is that such conditions have been eroded in a number of telecommunications sectors. The demise of natural monopoly conditions is most apparent in the markets for equipment manufacturing, customer premises equipment (CPE), and long-distance services.

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[22] See Kaserman and Mayo (1990).

[23] New State Ice Co. v. Liebman 285 U.S. 262, 311 (1936).

While the equipment and CPE markets are no longer subject to regulation, the demise of natural monopoly conditions in the long-distance industry did not precipitate the rapid movement to deregulation that many observers had expected at the time of divestiture.[26] Nonetheless, while complete deregulation of long-distance services has not materialized in any jurisdiction, a substantial amount of experimentation with various forms of reduced regulation has occurred at the state level. The divergent pace and paths of state-level regulatory policies create opportunities for a least two promising avenues of research. First, given that some states began the deregulation process in 1984 while others remain rate-of-return regulated today, it is feasible to empirically examine the impact that continued rate-of-return regulation has had in a non-natural monopoly setting. The first study to address this issue was conducted by Mathios and Rogers (1989). In their paper, these authors utilized state-level data from 1983-1987 to examine the effect of state-to-state variations in regulatory policies on long-distance prices in 1987. Price data for ten milage bands were gathered for 39 multiLATA states. Along with the price data, information on a host of demographic characteristics (e.g., population density, per capita income, and the ratio of rural to urban consumers), and regulatory variables (e.g., whether a state allowed pricing flexibility by AT&T on its long-distance services) were also gathered.

Mathios and Rogers first computed descriptive statistics on observed price levels in states with and without pricing flexibility. They found that "[S]tates that allowed pricing flexibility had lower 1987 prices than other states for all mileage bands." They then estimated a reduced form long-distance price equation, which included the demographic variables, a cost (access rate changes) variable, and regulatory variables to account for, inter alia, the impact of a regulatory regime shift on prices. The results indicate that "the price of a five-minute call, on average, is 7.2 percent lower in states that allow pricing flexibility." They also attempted to discriminate between the various types of regulatory pricing flexibility. Specifically, they differentiated between states that allowed full pricing flexibility and states that limited such flexibility through application of price bands. Interestingly, on this matter, the authors report that "... results show that while both of these types of flexibility result in prices lower than in states which allow no flexibility, the pricing-band flexibility results in even lower prices than the full pricing-flexibility framework."

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[24] One of the earliest appeals for deregulation was Katz and Willig (1983).

[25] See Evans and Heckman (1984) and Roller (1990).

[26] See Kaserman, Mayo, and Pacey (1993) for a discussion.

A second research effort to address the issue of the impact of alternative regulatory regimes on pricing in the long-distance industry has been conducted by Kaestner and Kahn (1990). These authors utilize a general oligopoly model to derive a reduced-form estimating equation for the price of AT&T's intrastate long-distance service. In particular, they show that AT&T's price is likely to depend upon (1) access charge levels, (2) the state-specific regulatory regime, (3) the market share of rivals, and (4) other state-specific variables that affect cost or demand. Because the market share of rivals may be simultaneously and adversely affected by the state-specific price, Kaestner and Kahn construct a separate market share equation for AT&T's rivals.

Using data gathered from forty states for each of three years (1986-1988), the two equations are then estimated as a simultaneous system. Two different variables are used to capture the state-specific regulatory regimes. First, they use a measure of the longevity of pricing flexibility in the state. Second, they use a measure of the longevity of deregulation (i.e., elimination of rate-of-return regulation). The results of their estimation reveal that both pricing flexibility and elimination of rate-of-return regulation have had the effect of reducing long-distance prices at the state level. Moreover, they find that the longer that such regulatory reform policies have been in place, the lower the price of long-distance service in that state.

In addition, they find that: (1) the market share of AT&T's rivals is highly responsive to AT&T's price; and (2) the price charged by AT&T is unresponsive to the market share of its rivals. The former result strongly suggests that the price elasticity of fringe firm supply is large in this market which, in turn, suggests that AT&T holds little or no market power. The latter result (that AT&T's price is unresponsive to the share of its rivals) is consistent with both oligopoly pricing in a dominant firm competitive fringe industry where the elasticity of supply of the competitive fringe is very high[27] and (equivalently) contestability theory.[28]

Another avenue of research made available by the divergent paths the states have followed in their movement to reduce pricing controls in the long-distance industry stems from the desire to refine and test positive economic theories of regulation.[29] In this context, it is natural to ask why a particular regulatory outcome is observed in one state but not in another. More scientifically stated, how accurately do the various competing theories of regulation predict the different regulatory outcomes observed across the states since divestiture?

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[27] See Landes and Posner (1981) and Kaserman and Mayo (1990).

[28] See Baumol, Panzar, and Willig (1988).

[29] This vein of research goes back to the seminal work of Stigler (1971), Posner (1974), and Peltzman (1976).

This question has been addressed by Kaserman, Mayo, and Pacey (1993), who test the performance of the economic theory of regulation against the public interest theory of regulation to explain this phenomenon. Specifically, they model the decision to eliminate rate-of-return regulation using a set of variables suggested by the economic theory of regulation and an alternative set of variables suggested by the public interest theory of regulation.[30] The former set of variables represent the strengths and stakes of the more important interest groups that are directly influenced by the decision to deregulate. In contrast, the variables suggested by the public interest theory of regulation relate more closely to the expected impact of deregulation on overall social welfare.

Given the binary nature of the decision to deregulate, the model was estimated using a logit model. In general, the results show that the variables suggested by the economic theory of regulation perform quite well in explaining the cross-sectional variation in states' decisions to "deregulate." Of particular interest, it was found that two previously neglected interest groups have played a significant role in the state-level decisions to eliminate rate-of-return regulation. First, the size and structure of the public utility commission staff played a key role in the ultimate decision to deregulate the long-distance industry. Second, public utility commissions' decisions to deregulate are significantly influenced by signals sent by state legislatures.[31] This later finding reinforces the growing recognition of the importance of congressional oversight bodies in determining regulatory outcomes.[32] In sharp contrast to the generally significant influence of the variables suggested by the economic theory of regulation, the public interest theory variables failed to add significant explanatory power to the model. Collectively, then, the model points toward the usefulness of using the economic theory of regulation as a general guidepost in attempting to understand regulatory outcomes.

4.2. IntraLATA Competition

As with the case of relaxing interLATA regulations, individual states have also moved at different speeds to allow the introduction of intraLATA toll competition by interexchange carriers. The resulting diversity of regulatory policies pertaining to entry into this market provides a natural social experiment to examine the economic consequences that have stemmed from the decision to open the LATAs to toll competition by interexchange carriers. Two questions are of particular interest. First, what has been the effect of allowing intraLATA toll competition on the long-distance rates charged by the local exchange companies whose services are then subjected to competition? Mathios and Rogers (1990) examine this issue using data on 1986 intraLATA toll prices in the lower 48 states. Employing a reduced-form pricing equation to estimate the effect of allowing competition on toll prices, they find that prices in states that prohibit intraLATA toll competition are roughly 7.5 percent higher than in states that permit this form of competition.[33]

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[30] For a more complete explanation and comparison of these theories, see Posner (1974).

[31] At the state level, these signals are often sent through "enabling" legislation that expressly permits the PUC to relax regulations or deregulate if it finds that such a policy is consistent with the public interest.

[32] See Weingast and Moran (1983) for the seminal research in this area.

While it is perhaps not too surprising that intraLATA toll rates have fallen with the introduction of competition, a second, more subtle, question has also arisen regarding this issue. Specifically, it has been feared that opening the LATAs to competition may lead to reduced profitability of the local exchange company and, thereby, result in the need to raise local rates. Kaserman, Mayo, Blank, and Kahai (1994) address this question both from a theoretical and empirical perspective. Using a residual pricing model, they find that, under certain assumed conditions, the introduction of intraLATA toll competition will theoretically lead to *lower* local rates. To the extent that these conditions do not hold, however, the impact of the introduction of intraLATA toll competition on local rates is theoretically indeterminant.

Accordingly, they then turn to examine the issue empirically. A model of the determinants of local residential telephone rates is constructed and estimated. Both the existence and longevity of intraLATA competition is included in the model, along with a variety of other "standardizing" variables. The results indicate that the introduction of intraLATA toll competition has had no significant impact (either positive or negative) on the rates charged to local residential rate payers.[34]

Thus, the empirical literature suggests that a policy of open entry into intraLATA toll markets is unambiguously beneficial. Toll rates are reduced, and local rates are unaffected. As a result, some consumers gain while no consumers lose. Competition appears to be as viable in intraLATA toll markets as it has proven to be in the interLATA market.

4.3. Price Caps

Over the years, there has been a growing recognition by economists of the inherent incentive problems created by traditional rate-of-return regulation.[35] This increasing skepticism of rate-of-return regulation, together with the adoption of a price-cap regulation mechanism for various telecommunications firms, has generated considerable interest in assessing the economic consequences of this latter form of regulation.[36] At the most intuitive level, the appeal of price-cap regulation is twofold. First, in contrast to rate-of-return regulation, which is essentially a cost-plus form of regulation, price caps divorce firm prices from costs. This uncoupling of prices and costs presumably creates incentives for the regulated firm to produce more efficiently and to innovate more aggressively.[37] Second, given that prices are set initially by regulators and cannot be raised except by various adjustment formula that are acceptable to regulators, the fear of monopoly pricing is also attenuated under this system.

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[33] In the context of a generalized dominant firm/competitive fringe model of intraLATA toll pricing, Blank, Kaserman, and Mayo (1994) find similar results.

[34] This result is consistent with the earlier analysis of this issue by Seviers (1991) and Kaestner and Kahn (1992).

[35] For a survey of the pertinent literature, see Sherman (1989)

[36] The first major adoption of price-cap regulation was British Telecom in the early 1980s. Subsequently, price-cap regulation has been adopted in the United States by the FCC for

The interest in price-cap regulation has spawned a host of theoretical research over the past decade. A complete survey of that literature is beyond the scope of this paper.[38] It is worth pointing out, however, that this literature generally assumes the presence of significant monopoly power on the part of the regulated firm for at least some subset of its products.[39] Consequently, if one believes (as we do) that effective competition is currently present throughout the long-distance (inter-LATA) market, price-cap regulation and the theoretical literature pertaining to it has little, if any, relevance to this portion of the telecommunications industry. It may, however, be applicable to the situation now faced by the LECs, where some services remain subject to monopoly supply while other services are experiencing emerging competition.

While the theoretical properties of price-cap regulation of partial monopolists have been considered in some depth, its empirical consequences have not yet been thoroughly explored.[40] As a result, there is insufficient evidence at this point to reach any sort of firm conclusion regarding the relative performance of firms subjected to this form of regulation. We simply do not now know whether price-cap regulation will ultimately prove to be superior to rate-of-return regulation or the various other incentive regulation mechanisms currently being implemented. What we do know, however, is that, in the presence of effective competition, complete deregulation is, in all likelihood, the superior policy choice.

AT&T's interstate services and for the Regional Bell Operating Companies for interstate access services.

[37] See Cabral and Riordan (1989). For a more critical perspective of the theoretical performance properties of price caps relative to rate-of-return regulation, see Liston (1993). See also Abbott and Crew (1993).

[38] Liston (1993) contains a detailed discussion of the theoretical properties of price-cap regulation, as well as a thorough bibliography.

[39] For example, Sappington and Sibley (1992, 3) write that: "AT&T is thought to have considerable market power over services in the first two baskets..."

[40] In the only such study of which we are aware, Schmalensee and Rohlfs (1992) attempt to estimate the consequences of FCC price-cap regulation of AT&T. They estimate that in the price cap period from 1989-1991, the productivity gains from AT&T's efforts to reduce costs and increase efficiencies were $1.8 billion. Also, see our earlier discussion of Mathios and Rogers (1989).

5. Conclusions, Policy Issues, and Emerging Areas of Research

The past decade has witnessed a remarkable transformation of the long-distance telecommunications industry. What began as a completely untested proposition—that competition for long-distance services is a sustainable phenomenon—has now been established as an uncontestable fact. There are roughly 400 long-distance carriers operating in the United States today. While AT&T is still the largest firm in the market, its competitors have shown a remarkable ability to enter, grow, drive the market by introducing new services, and enforce competitive discipline in the market. The combination of these competitive pressures, technological changes, and regulatory responses have yielded substantial benefits to consumers in the form of lower prices and a vastly expanded array of new services from which to choose.

The past decade has also provided economists with a rare opportunity to examine both the causes and consequences of alternative regulatory policies. Several empirical studies have now been performed on the consequences of different regulatory policies in the post-divestiture period. These tests strongly support the proposition that public utility-style, rate-of-return regulation has served to elevate prices for long-distance service. The conversion of regulation to a price-cap mechanism has been shown to improve productivity considerably relative to rate-of-return regulation. The empirical estimates to date, however, suggest that the greatest gain to long-distance consumers will occur when all direct regulatory controls on price levels are eliminated.

Empirical research has also shown that competition for intraLATA services has generated benefits to long-distance consumers and has not resulted in any upward movement in local residential telephone rates. The disparate evolution of post-divestiture regulatory policies at the state level has also given rise to the opportunity to examine the causes of observed regulatory policy. Empirical tests suggest that the current pattern of long-distance regulation is best understood from the perspective of the modern economic theory of regulation.

While the first decade of the post-divestiture telecommunications industry has stimulated a spate of important empirical research, the next decade promises to be equally interesting. A number of important economic and policy issues now lie on the horizon. Economic research in these areas holds the promise of shedding new light on outstanding unresolved economic issues as well as providing policy guidance for federal and state legislative and regulatory bodies. Some of these issues include: (1) the impact of "1+" competition in intraLATA toll markets; (2) how market behavior may be affected by the post-deregulation threat of reregulation; (3) the causes and consequences of the variations in the size of local calling areas; (4) economic assessments of price caps versus complete deregulation of long-distance services; (5) the economics of alternative approaches to regulating the local exchange carriers; and (6) the economic consequences of possible BOC re-entry into interexchange services and equipment manufacturing. The one thing of which we can be certain is that there will be no shortage of interesting and policy-relevant issues to investigate.

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The CHAIRMAN. Our final witness is Dr. Lee Selwyn, President, Economics and Technology.

STATEMENT OF DR. LEE SELWYN, PRESIDENT, ECONOMICS AND TECHNOLOGY

Dr. SELWYN. Thank you, Mr. Chairman. I appreciate the opportunity to be here today, and to share my views with you on issues relating to local competition.

As I believe you may have been informed, I was scheduled today to appear as a staff witness at a proceeding before the Delaware Public Service Commission, in Dover, Delaware.

They were able to rearrange some witnesses, but it would delay their proceeding if I do not get there by about 2, so I would ask to be excused at approximately noon so I can get there.

The CHAIRMAN. Yes. Absolutely. [Laughter.]

The CHAIRMAN. No problem.

Dr. SELWYN. While listening to the remarks of both the government witnesses earlier today and the other panelists today, I was struck by the fact that Mrs. Bingaman's concerns about the history of behavior of the telephone monopolies over the last 25 to 30 year period of time, in which I myself have been professionally involved in the telecommunications policy field, confirm that competition will not arise without affirmative steps by government through the regulatory process, to create an environment where competition can develop and prosper.

In almost every instance of competitive presence in telecommunications today, in the long-distance market, in the customer premises equipment market, the manufacturing market, and information services market, that competition is the result of affirmative actions by the legislature, by the judiciary, and by regulators at the State and Federal levels.

It did not happen by itself, and it did not happen without considerable struggle and considerable resistance from the entrenched monopolies.

I would like to focus my remarks today on one area that I think was only touched very upon briefly, but is extremely important: The issue of cross subsidization and price cap regulation.

We do not get to true competition unless all participants in the marketplace are required to take risks. It is the incumbent monopolies, in some respect, which are insulated from risk taking.

They will take actions, they will pursue investments that will disadvantage competitors, and may, in fact, lead to seriously inefficient economic decisions.

George Gilder suggested that technology is moving at a pace where its cost-effectiveness doubles every 12 months. And yet, the local exchange carriers are seeking from the FCC, and from State regulators, and in some cases, from State legislatures, so-called price cap regulation schemes in which they are required to reduce the real price of their services by amounts that fall in the range of two to 3 percent annually, relying on productivity trends dating back to the 1940's.

This has the effect of producing substantial amounts of excess cash which can be reinvested in new ventures and new technologies in ways that no competitor would be able to support.

Let us take video as an example. We are all desirous of achieving a competitive video market. In order for the local telephone monopolies to enter the video business, they have to construct from scratch a video network. The existing telephone network has no capability to deliver multi-channel video services.

The cost of that network nationally has been variously estimated at falling between $200 billion and $300 billion. Under various proposals for video entry, local exchange carriers are attempting to assign the substantial bulk of those costs to local exchange telephone services.

They are being permitted to do so through regulatory mechanisms, such as price caps with inadequate productivity offset factors, that permit them to capture these investments within the scope of their monopoly services, and to, in effect, reassign video plant to basic telephone services by simply transferring telephone services to this new plant.

It serves no purpose, it seems to me, for the Congress to legislate entry into the video market, while at the same time sanctioning regulatory systems that permit this type of cross subsidization to take place.

Cross subsidization should be defined as any practice that causes the price of monopoly services to be higher than it otherwise would be by virtue of the monopoly's entry into a competitive market. Whether through cost allocation devices that are accomplished under cost-based regulation, or through inadequately designed price cap or other incentive regulation plans that accomplish the same thing, this type of cross subsidization will persist.

Fully separated subsidiaries do not obviate this problem, unless they are required to use separate plant, and to acquire that plant with risk capital supplied by shareholders, rather than through revenues obtained from monopoly ratepayers.

The FCC and various State commissions have an opportunity in their price cap considerations to develop effective forms of incentive regulation that, in the future, will, in fact, assign risks where they belong.

However, if commissions accept the positions of the local exchange monopolies, and establish inadequate safeguards and inadequate real price adjustments in these plans, the effect will be to force captive monopoly ratepayers to finance competitive ventures. Thank you.

The CHAIRMAN. Thank you very much.

[The prepared statement of Dr. Selwyn follows:]

Statement of

Dr. Lee L. Selwyn

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Before the
United States Senate
Committee on Commerce, Science and Transportation

March 2, 1995

Statement of Dr. Lee L. Selwyn

President of Economics and Technology, Inc.
Before the Committee on Commerce, Science and Transportation
March 2, 1995

Mr. Chairman, members of the Committee, thank you for inviting me to appear here today and to present my views on the subject of competition in the local telecommunications market. My name is Lee L. Selwyn. I am President of Economics and Technology, Inc., a telecommunications policy research and consulting firm based in Boston, Massachusetts. I have been professionally involved in the telecommunications regulation and policy field for more than twenty-five years.

The development of effective and sustainable competition in the local telecommunications market is and should be a central goal of federal and state telecommunications policy. Competition has become an established fact of life in several other key segments of the overall telecommunications marketplace - customer premises equipment, long distance services, and a wide range of information services. Competition in those segments developed and flourished in each case because regulators and policymakers took affirmative steps to create an environment in which that result would be possible; it didn't just happen on its own. And it didn't happen without considerable struggle, either. The entrenched monopolies resisted competition often before it was even noticeable in the marketplace. Like a surgeon whose ideal treatment for a cancer is to remove the diseased tissue before it can spread, the local telephone monopolies have consistently pursued regulatory and business strategies aimed at eliminating embryonic competition before it can become a real threat. It was only through the persistence of regulators and pioneering entrepreneurs that the present level of competition in long distance and premises equipment was able to become established.

History is repeating itself with respect to local competition. Monopoly local telephone companies are maintaining and erecting barriers to entry, just as they attempted to prevent customer premises equipment competition in the 1970s through bogus "Protective Connecting Arrangement" requirements. LECs are refusing to provide the necessary interconnections and network unbundling elements that are essential for local competition, just as they resisted "equal access" for competing long distance carriers prior to the break-up of the Bell System.

Local competition is not going to develop merely through the passage of time. Local competition requires affirmative regulatory action, action that will assure unbundled access to a full range of network functions, true local number portability, equitable mutual compensation arrangements for the interchange of traffic, and strict prohibitions against anticompetitive leveraging of the LEC monopoly to limit, burden, or block entry and development of competition.

But even if all of these impediments are overcome - which they must be - LECs will continue to overwhelm any non-LEC rival as long as their own initiatives and competitive responses are effectively insulated from business and financial risk. Regulatory devices such as "price caps" and other so-called "incentive regulation" schemes create a misleading impression of risk-shifting from captive ratepayers to monopoly LECs, when in fact these regulatory systems, if not properly designed and balanced, actually create formidable war chests of cash that permit LECs to pursue their rivals with ratepayer, rather than with shareholder, capital. In any event, cost-based pricing of essential monopoly network elements must be maintained, under any regulatory paradigm.

Attached to this statement are two recent papers I have written that explain in detail how these regulatory processes are being used by LECs to frustrate competition and to maintain their fortress monopoly position. Until the LEC monopoly control of essential network elements is eliminated, effective regulation and effective competition are not mutually exclusive policy goals; indeed, the latter cannot be expected to arise in the absence of the former. The formulation and enforcement of effective market rules that can serve to prevent anticompetitive behavior and to promote competition is a far more efficient means for achieving national telecommunications policy goals than the alternative approach that LECs and their consultants have advocated - the after-the-fact private enforcement of antitrust laws. Regulation and competition can and should work together in a public/private partnership to assure full market access, effective competition, and efficient development of a national telecommunications and information infrastructure that will best meet the needs and goals of the nation as a whole and all of its citizens.

Thank you very much.

EFFICIENT PUBLIC INVESTMENT IN TELECOMMUNICATIONS INFRASTRUCTURE

THE CASE FOR PRIVATE COMPETITIVE PROVISION OF QUASI-PUBLIC RESOURCES

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EFFICIENT INVESTMENT IN TELECOMMUNICATIONS INFRASTRUCTURE: THE CASE FOR PRIVATE COMPETITIVE PROVISION OF QUASI-PUBLIC RESOURCES

LEE L. SELWYN

ABSTRACT

One key telecommunications issue being discussed in both state and national forums is the effect of regulatory programs on the development of telecommunications infrastructure and any potential beneficial impacts on the national economy. Some have advised government agencies to develop and implement "industrial policy" initiatives to achieve specific investment objectives.

These issues are examined by analyzing the assumption that increases in telecommunications infrastructure should be implicitly funded by "taxing" current telecommunications ratepayers with deliberately overstated government-regulated telephone rates. The paper emphasizes the economics literature concerning private provision of quasi-public goods and quantitative macroeconomic effects of taxing consumers.

INTRODUCTION

One of the central telecommunications policy issues being discussed in both state and national forums is the effect of regulatory programs and national initiatives upon the development of telecommunications infrastructure and the potential beneficial impacts thereof for the economy generally.[1] Some have advised government agencies to pursue what amount to "industrial policy" initiatives as a means for achieving specific investment objectives related to the "information superhighway," either through regulatory programs designed to assure the incumbent telecommunications monopolies a level of revenues sufficient to finance such investment programs,[2] or through a lessening of government regulation on the incumbent telecommunications monopolies via additional legislation, as the device that will

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[1] See, e.g., the Federal Communications Commission's Notice of Proposed Rulemaking, Released February 16, 1994, *In the Matter of Price Cap Performance Review For Local Exchange Carriers*, FCC CC Docket 94-1. The same kinds of issues have been, and are being, addressed in many states - including New York, Massachusetts, New Jersey, Illinois, Maryland, Ohio, Pennsylvania - in incentive regulation regulatory dockets.

[2] See, e.g., McGraw-Hill/DRI, Inc. May 9, 1994, "Telecommunications Modernization in the Arkansas Economy," attached to the *Comments of Southwestern Bell Telephone Company*, FCC CC Docket 94-1.

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assure an increase in telecommunications output, jobs, and productivity.[3] Others counsel that the firms in the marketplace should themselves determine the extent of the appropriate investment and, more importantly, should absorb the risks of that investment much like firms in most other US industries.[4]

This study deals with the unique situation of local telecommunications service in the late 1990s. It contrasts dramatically with the public investment questions which involve highways, bridges, sewers, schools, hospitals, transit systems, airports, and similar public facilities.[5] Trends toward goals of "competition" and "incentive regulation" in telecommunications have been well-established by both state and federal authorities. At the same time, potential competitors in the local telephone service market have made a wide variety of announcements and initiatives.[6] A key issue is the extent to which government should assist the financial endeavors of the incumbent local exchange carriers ("LECs") in the development of a National Information Infrastructure ("NII"). For example, in a recent Notice of Proposed Rulemaking, the Federal Communications Commission asks, "Whether, and if so how, the Commission should revise the LEC price cap plan to support the development of a ubiquitous national information infrastructure."[7] This is only the latest of a number of specific proposals at both the state and federal levels to develop incentive regulation programs with the intention of permitting LECs to maintain rates for monopoly telephone services at a level higher than those that would occur under competition, for the express purpose of funding large-scale network modernization capital investment projects.[8] In this analysis, we examine the economic wisdom of such publicly-mandated telecommunications infrastructure investments both in their absolute terms as well as in relation to other means for achieving national telecommunications policy goals.[9]

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[3] Two important government studies appear to take this view: Council of Economic Advisors, June 1994, "Economic Benefits of the Administration's Legislative Proposals for Telecommunications," Executive Office of the President, Washington, D.C., and the earlier study, National Telecommunications and Information Administration, October 1991, *The NTIA Infrastructure Report: Telecommunications in the Age of Information*, U.S. Department of Commerce, Washington, D.C.

[4] See, e.g., Economics and Technology, Inc. and Hatfield Associates, Inc. 1994. *"The Enduring Local Bottleneck, Monopoly Power and the Local Exchange Carriers."* Chapters 6 and 7.

[5] See, e.g., the interchange between Munnel (Munnel 1992, 1879-198) and Holtz-Eakin (Holtz-Eakin 1993, 231-234).

[6] See, e.g., "Time for Cable Telephony," *Multichannel News*, June 13, 1994, 6A-7A; "What's Next for Cable — POTS and Beyond," *Telephony*, July 25, 1994; "MSOs Commit $2B to Branch Out Into Telephony," *Multichannel News*, August 15, 1994, 3 and 38; "CATV Networks Join to Offer PCS," *Telephony*, November 22, 1993, 8; "Motorola Unveils CableComm Telephony at Show," *Multichannel News*, May 30, 1994, 48; "Time Warner Demo Proves Promise of Wireless and CATV," *Telephony*, June 13, 1994, 7 and 24; and "Utilities Light Up Local Competition", *America's Network*, August 15, 1994, 28-32.

[7] Federal Communications Commission, *op. cit.*, footnote 1, para. 36.

[8] At the state level, see, e.g., Testimony of William Taylor, April 14, 1994, On behalf of New England Telephone in *Proposed Alternative Regulatory Plan for New England Telephone*, Massachusetts Department of Public Utilities (DPU) Docket No. 94-50.

THE LEC PRICE CAP CONCEPT

The essential goal of state and federal incentive regulation ("price cap") plans is to achieve as closely as possible a "competitive result," i.e., the price levels and efficient resource allocations characteristic of fully competitive markets, in those markets where the LECs continue to hold substantial market power. The reason that economic regulation, i.e., a price cap, is being applied at all is that these companies' pricing policies and capital deployments are not sufficiently disciplined by marketplace forces to result in efficient, desirable market outcomes. While price cap regulation is at least intended to limit the exposure of ratepayers and in so doing make the LECs more accountable for the financial consequences of their managerial decisions, including network investments, the reality is that the price cap mechanism still falls far short of the discipline imposed by the capital-rationing process that occurs in the private, unregulated sectors of the economy.

Private, unregulated firms compete for capital in the debt and equity markets, and capital is expected to flow to those activities that are willing to pay the most for it, reflecting the particular uses that produce the greatest overall value to the economy as a whole. Investors and providers of financial capital are expected to assume the various *risks* attendant to any economic venture, to factor such risks into their investment decisions, and to be prepared to accept the loss of some or even all of their capital in exchange for the *opportunity* to realize potentially large gains if the activity is successful.

This matching of risks and potential gains does not occur under any of the forms of economic regulation, including the so-called "incentive" mechanisms such as price cap plans, that are typically applied to public utilities. In the case of LEC price cap systems like the one adopted by the FCC, the presence of a low-end earnings adjustment device through which price cap LECs may revert to rate of return regulation in the event of a sustained earnings deficiency, plus the carriers' constitutional protection from confiscatory rate setting by virtue of their status as regulated utilities,[10] ensures that *ultimately the financial risk of the LECs' technology deployments are borne by the consumers of regulated services*, and not by the

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[9] This is the primary focus of the analysis here. in this light, the benefits (or lack thereof) of various NII initiatives are thus not framed as a debate between traditional rate of return regulation and price caps regulation.

[10] See, e.g., *Federal Power Commission et al v. Hope Natural Gas Co.*, Supreme Court of the United States, 320 US 591 (1944) and *Bluefield Water Works & Improvement Co. v. Public Service Commission of West Virginia*, Supreme Court of the United States, 262 US 679 (1923).

LECs or their shareholders who are nevertheless in a position to capture the majority of any financial gains.[11]

This financial risk to ratepayers is an unavoidable consequence of the fact that the LECs continue to have monopoly power in their principal markets[12], i.e. basic local service, intraLATA toll, and intrastate and interstate access services: In such cases of demonstrable market failure, regulators must intervene and some government decision-making must occur. However, as the evolution of state and federal competitive entry policies for telecommunications acknowledges,[13] the extent (if not the power) of the LECs' monopoly has been shrinking over the past few decades, and the evidence does *not* suggest that deployment of the bulk of the local facilities underlying a national information infrastructure must or even should be included within the sphere of the LECs' regulated, monopoly activities. In fact, an open, competitive marketplace is the best means to realize an optimum development of that infrastructure.

NII INVESTMENT ALTERNATIVES

It has by now become commonplace for LECs — and in some cases for those who regulate them — to propose adoption of incentive regulation plans that allow for supracompetitive prices for monopoly services in return for their "commitment" to increased infrastructure investment. This is generally done by specifying a rate of change for monopoly revenues (via a value called the X Factor) which does not fully reflect the dramatically declining costs of providing such services, thereby creating a positive, stimulative linkage between the financial constraints of the price cap and the LEC's deployment of advanced

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[11] The risk exists today that the price cap mechanism is resulting in inappropriate investments and/or improperly transferring funds out of the regulated LECs to unregulated parent companies and other affiliates. This risk would be greatly magnified by creating conditions under which the LECs would have the ability to expand into emerging information markets using funds generated by monopoly services via a price cap mechanism.

[12] The LECs' monopoly power in their principal market highlights a factual difference between the cable industry and the LECs: LECs control in excess of 99% of the local access services market, while cable television competes with numerous close substitutes, including over-the-air broadcast television, video rental services, movies, live events, and other forms of entertainment. This suggests that the type of restrictions which may be required to protect telephone ratepayers could be inapplicable to cable companies. This is because cable companies (especially after cable re-regulation) have a limited ability to mark up prices in their principal markets to subsidize other ventures.

[13] For example, in the initial decision to require LECs to make available the collocation of competitor's access facilities, the Commission concluded that "[t]he growth in competition resulting from expanded interconnection should increase LEC incentives for efficiency and encourage LECs to deploy new technologies facilitating innovative service offerings." CC Docket 91-141, *Report and Order and Notice of Proposed Rulemaking*, 7 FCC Rcd 7380 (1992).

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network technologies.[14] By implementing such programs, government is fostering what amounts to an *industrial policy* that effectively abandons free market processes and adopts in their place a centralized, monopolistic development strategy for the national information infrastructure. While LECs may seek to portray this strategy as the *only* means for providing the nation's telecommunications future, there are, in fact, at least three alternatives that can be pursued in reaching this goal:

(a) The nation's telecommunications and information resources could be developed and acquired through private, risk-taking, entrepreneurial investment made in response to known or anticipated market demand and willingness-to-pay, with issues such as the proper level of investment, the selection among competing technologies and service delivery paradigms, being left entirely to marketplace forces.

(b) The nation's telecommunications infrastructure could be developed as a natural monopoly by the existing dominant local telephone utilities who already possess a ubiquitous infrastructure with near-universal (voice-grade) connectivity, expertise and experience building and managing large networks, expending massive amounts of capital, and a base of monopoly services capable of supplying a baseline level of revenues to financially underwrite and underpin new large-scale construction programs. Alternatively, the responsibility for the development of a new broadband infrastructure could be conferred on the existing cable television operators, who already possess extensive broadband distribution facilities and who, like the local exchange telephone utilities, also have the experience and expertise to construct and manage large ubiquitous networks.

(c) The nation's telecommunications infrastructure could be built and managed by public authorities and other governmental and quasi-governmental bodies, much like the nation's network of public highways, airports, postal service, mass transit systems, and the telecommunications resources of most other countries.

While some limited combination of these alternatives may be possible, for the most part adoption of any one of them will largely preclude the others from occurring, except perhaps in specialized, niche market situations. For example, it would clearly be counterproductive to attempt to have government-owned or managed entities in direct competition with private firms for provision of advanced telecommunications services. Granting the franchised monopoly carriers, in this case the LECs, a leading role in development of the national information infrastructure *that is backed by the funds received from their regulated, non-competitive services* — as any affirmative linkage to the price caps system would do — is incompatible with the private risk-capital, entrepreneurial approach.[15] And finally, commitment to the latter approach will necessarily mean that the dominant LECs' entry into advanced telecommunications markets will need to be carefully circumscribed and monitored.

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[14] See, e.g., the *Telecommunications Technology Investment Act*, 26 Del. C. subchapter VIIA, 26 Del. Laws c. 99. Enacted by the Delaware General Assembly in 1993, this statute permits a local telecommunications utility to elect price cap regulation in exchange for a non-binding "commitment" to invest $250-million in Delaware during the ensuing five years. Bell Atlantic-Delaware, the only entity eligible for this program, made its election in March, 1994.

In fact, there appears to be little support for pursuing alternative (c) — government-financed construction and government ownership and management — as a general matter, since direct government participation in any particular area of economic activity is not warranted if the private sector is capable of satisfying the public's needs. In many important respects, however, there is little difference between alternative (c) and alternative (b) (the "natural monopoly" model), because in both cases the decisionmaking is centralized in monolithic bureaucracies and the investment risk is ultimately borne by the public; the distinction between the "government" and the "public utility" model is that in the former the resource is built and managed by a public agency, whereas in the latter it is built and managed by a private entity operating under a franchise granted by a public agency under which, among other things, the private investors' capital is fully protected against loss by a guarantee of government action. Experience has taught that private profit-oriented management usually does a better job than public administration of a business activity, so in general the public utility model is clearly preferable to the public ownership approach. However, with respect to the efficacy of resource allocation, and potential for competition and innovation, there is little basis upon which to choose between a government or franchised monopoly provider, since either performs far worse than do private firms in an open, competitive marketplace.

THE BENEFITS OF COMPETITION, INNOVATION, AND PRIVATE INVESTMENT

In a market economy, use of private risk capital and market-based decisionmaking is always the preferred method of efficiently allocating society's resources, except under very special circumstances. Policies that encourage — or even mandate — centralized monopolistic development (by private or public entities) of a future telecommunications infrastructure could be justified if and only if one or both of the following economic conditions hold true:

(1) There are sufficiently great economies of scale and/or scope that the static efficiency gains from "natural monopoly" treatment outweigh both the dynamic gains available through innovation and competition as well as the societal risks of centralized, non-market-based investment decisions; *or*

(2) There is not sufficient private risk capital available to finance the investments required. This may occur when (a) the scale of the investment is very large; (b) the risks are unacceptably high to private investors; or (c) an insufficient amount of the

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[15] Thus policymakers should be cautious before allowing LECs into other markets *unless it is clear that captive ratepayers for monopoly services are not subsidizing the new services.*

potential benefits flowing from the investments would be reflected in market prices; i.e., there is a significant positive "externality" that can only be realized through collective, rather than individual, consumption decisions.

As demonstrated below, neither of these economic conditions apply to the development of the US information infrastructure in the current era. Despite the persistence of the local telephone companies' virtual monopolies in certain traditional segments[16] of the local telecommunications market today, the characteristics of advanced telecommunications technologies and applications make them unsuitable for "natural monopoly" treatment.

Moreover, the accelerating pace of private investment in telecommunications today belies any claims that the desired infrastructure will not develop without additional financial inducements to the nation's local telephone companies, whether through the price cap mechanism or other means. There can be little doubt that a competitive market structure is the preferred paradigm for building a national information infrastructure, and state and federal government agencies should assure that their policies and regulatory strategies are fully consistent with this result.

THE PROBLEM OF PUBLIC INVESTMENT WITH RAPIDLY CHANGING TECHNOLOGY

In order for a "natural monopoly" approach to the development of an advanced telecommunications infrastructure to succeed, two conditions would have to be met. First, the underlying technology would have to be sufficiently stable, and second, the market demand sufficiently predictable, that the gains from the "static" efficiencies of natural monopoly (i.e., economies of scale and scope) would exceed the risks of locking in a specific technological direction for an extended length of time or of fundamentally misjudging the potential demand for the services to be provided by these new resources.

However, no one could seriously argue that the technology that will support a national information infrastructure has been definitively established. The single most prominent feature of modern telecommunications technology is the profusion of ***multiple, rival technologies***, rather than a convergence on a single technological mode. The copper wire and electromechanical/analog-based architecture that supported telephony for decades has given way to a mix of copper, optical fiber, coaxial cable, satellite, microwave, and other wireless transmission media. The evolutionary cycle of switching machines has been shortened substantially with every new generation of technology;[17] a completely new technology of "photonic" switching is under development and may begin to supplant electrical switching within the next ten to fifteen years.[18] But while the common attribute of virtually all competing technology systems is *digital*, the solutions each offers vary considerably. So-called "last mile" access can be provided by twisted pair copper wire (as it is today for most telephone access connections), by coaxial cables (the approach being used by most US cable TV companies), by any of several wireless technologies, or by fiber optic cables. Moreover, there is increasing interest in combining various media and digital techniques; for example, research is being conducted on the use of CDMA (code division multiple access) on the return channel in hybrid fiber/coaxial cable systems.[19]

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[16] These include local exchange access, local network transport and usage, intraLATA toll, and local ("loop") distribution.

[17] Indeed, the lifespans of successive generations of telecommunications switching technologies are clearly becoming shorter. See, e.g., Hyman, L., R. Toole, R. Avellis 1987: 42.

Even the baseline requirement for "broadband" network transmission and switching is competing with solutions that compress large amounts of data or other signals onto narrowband transmission facilities. As recently as about 1980, most public switched network data transmission was limited to 300 bits-per-second (bps) transmission speeds of the (then available) modems. Today, by using 28.8 kbps modems with data compression, transmission speeds of up to 115.2 kbps can be achieved over the same "dial-up" public switched network services. Thus, without any increase in the underlying transmission and switching bandwidth, effective data transmission rates have been increased by some 384 times the 300 bps limit of 15 years ago. These developments are continuing to greatly expand the quantity of information that can be transmitted without recourse to fiber loop facilities.[20] As with the proliferation of technologies in the underlying physical media, an increasing number of alternative compression techniques are being developed that could be employed in commercial applications either singly or in combination.[21]

Choosing the "natural monopoly" approach to development of the national information infrastructure — which would be the effect of grafting financial incentives for such development onto the LEC price cap regulatory regime — would create serious roadblocks to the testing of the viability of these technologies in the marketplace, and more generally would hinder the development of the overall telecommunications infrastructure. The economics literature on the relationships between market structure and technology innovation strongly confirms that the commercial gains from technology investment and innovation tend to be

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[18] See, e.g., "Fiber Optic Networks: And Then There Was Light," *Communications News*, December 1990, 13-15; J. Dupraz et. al., "The Future of Photonic Switching," *Electrical Communication*, 4th quarter 1992, 72-77.

[19] "Can CDMA work its magic for cable?" *Telephony*, January 24, 1994, 16.

[20] See, for example, "Compression helps copper equal fiber," *Telephony*, January 31, 1994, which describes a new technique jointly developed by Stevens Institute of Technology and Digital Compression Technology that can expand effective transmission capacity by an additional sixteen times.

[21] A recent trade press article remarks on "the astounding advances made in signal compression," and cites ADSL/HDSL (already being used by many LECs), MPEG 2 (a predictive algorithm for video), QAM and VSB (alternative video compression techniques), and the Digital Compression Technology/SIT technique referred to earlier. "Compression: Making thin pipes fat," *Telephony*, March 14, 1994, 18.

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significantly less in monopolistic markets compared to those in which competition has been allowed to develop.[22]

Consider, for example, the market for telephone handsets and other customer premises equipment (CPE). The *de facto* national policy (as set by the former Bell System and acceded to by regulators) for many years was that CPE should be designed and provided through the centralized monopoly apparatus of the local telephone operating companies, and for many years the CPE market experienced only slow, incremental progress and relatively little innovation.[23] After CPE was deregulated and the Bell monopoly rolled back, vigorous competition in the equipment market set off an explosion of new products, functions and applications that has vastly expanded the range and usefulness of the entire public telecommunications network.[24] Devices that have become commonplace — fax machines, data modems, telephone answering machines, cordless phones — as well as specialized products (like a device that allows one to program a VCR remotely via the telephone) were all virtually nonexistent prior to the de-monopolization of customer premises' telecommunications equipment.

As the example of the CPE market vividly demonstrates, a competitive marketplace tends to be far more customer-oriented than a noncompetitive one. Since a large part of the uncertainty surrounding advanced telecommunications services is precisely what customers will want (and will be willing to pay for), it is particularly critical to the development of these services that competitive conditions be extended as far as possible. Only in those circumstances where it is clearly evident that there is unfulfilled customer demand (market failure) should government even consider intervention as a means for "filling the gap."

Moreover, the retarded rate at which innovative commercial applications occur in a monopoly market structure follows directly from the monopolist's profit-maximizing strategy. As explained in the landmark analysis by Scherer, "...the enterprise that anticipates a continuing exogenous technology push will not commence development at the moment when an innovation first becomes profitable but *it will wait until it can expect above-normal economic profits*. Such a strategy of delay is feasible only if the firm has an insulated monopoly position." (Scherer 1984, 124-125, emphasis supplied). Withholding technology in this way is a very real concern in the context of LECs' involvement in advanced telecommunications services. In fact, a graphic case of overt technology suppression by LECs can be found with respect to the commercial roll-out of so-called Integrated Services Digital Network (ISDN) services to the mass market. ISDN offers high-speed digital connectivity between end users and the public network, is provided using technology that has been available since the mid-1980s, but has received comparatively little support by the LECs as they pursue the strategic objective of ubiquitous broadband networks. After nearly a decade, actual availability of ISDN to most residential and small business telephone customers is extremely limited,[26] and LECs have affirmatively resisted numerous regulatory initiatives aimed at accelerating its deployment.[25] For example, while Pacific Bell specifically identified ISDN as a benefit of its accelerated plant modernization program as early as December of 1987,[27] Pacific did not submit a tariff for "Basic Rate" ISDN in California until February, 1993, *some five years later.*[28] Similarly, Southwestern Bell has had the capability to deploy ISDN on a customer-specific basis since at least June of 1986,[29] but will have deployed ISDN on only 21% of its access lines by the end of this year.[30] In other states, ISDN has been made available somewhat sooner, but at prohibitively expensive "market-based" rates that have chilled consumer interest in the service and impeded its use by enhanced services providers as a cost-effective means to reach their customer base.[31] Compare the snail's pace of ISDN deployment with the diffusion of data modem technology that permits the digital signals that could be carried over ISDN facilities to be transported over existing *analog* public network services. In the mid-1980s, ISDN offered data rates of at least 48 times that of the fastest commercially available dial-up modems; today, while ISDN data rates remain unchanged at the mid-1980s levels (approximately 64 kilobits/second vs. 56 kilobits/second), ISDN data rates are now only about double the highest modem speeds (28.8 kilobits/second). Indeed, many now believe that the LECs have "missed the boat" on ISDN, because the competitive modem market has largely superseded the need for ISDN as a data transmission platform.

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[22] *See, e.g.*, Tirole (1990), Scherer (1990, 1984).

[23] In fact, the black, rotary dial telephone was a hallmark of the Bell System monopoly for decades.

[24] It should not be forgotten that it took some *sixteen years* for full CPE competition to develop, between the initial *Carterphone* ruling in 1968 until the open marketplace established following CPE deregulation and the Bell System divestiture in 1984. Clearly, the nation cannot afford to wait two decades for a mature national information infrastructure to arrive.

THE PROBLEM OF PUBLIC INVESTMENT WITH UNCERTAIN DEMAND

As noted above, an additional requirement for successful implementation of an industrial policy of centralized, monopoly development is that demand must be relatively predictable. But demand is anything but predictable for the types of services that an advanced information infrastructure would make possible. The speculative nature of the new applications and markets loosely referred to as the "information superhighway" cannot be overemphasized. Quoting the head of the nation's largest cable television company, *The Economist* makes the point succinctly with respect to broadband "multimedia" services:

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[25] See, e.g., "Solving the ISDN Blues," *Telephony*, June 20, 1994.

[26] See, e.g., Bellcore Special Report SR-NWT-002102, June 1992, *ISDN Deployment Data*.

[27] Pacific Bell Depreciation Study, December 1987, Section I, 17 and 21.

[28] Pacific Bell Proposed Schedule CAL. P.U.C. No. A5, §5.4.1, dated February 19, 1993, Advice Letter No. 16469.

[29] "SW Bell dives into ISDN with largest cutover to date," *Telephony*, June 13, 1995, 10.

[30] Electronic Frontier Foundation, Inc. July 1992, *The EFF Open Platform Proposal*, 11, footnote 97, citing *ISDN Deployment Data* (BellCore Report SR-NWR-002102, Issue 2, June 1992).

[31] The founder of Lotus Development Corporation has testified that "there are substantial and vastly underappreciated entrepreneurial opportunities which would arise out of the widespread availability of ISDN at affordable prices." Testimony of Mitchell Kapor, May 16, 1991, "NET-ISDN," Massachusetts D.P.U. Docket No. 91-63.

> Can multimedia pay its way? The first problem, as John Malone, TCI's chairman, concedes, is that most of the revenues from multimedia will be generated *by products* — such as interactive television and programming for hundreds of multimedia channels — *that do not yet exist.*[32]

Even more pedestrian "on-line" services have failed to stimulate the level of interest that many had predicted. In testimony filed before the California PUC in August, 1994, a witness for Pacific Bell Information Services emphasized precisely this point with respect to "electronic yellow pages:"

> Electronic forms of Yellow Pages will continue to be more hype than reality. While some efforts in electronic publishing may succeed, many will fail, and the ones that succeed will have characteristics substantially different from electronic Yellow Pages.[33]

There is a huge gap between the types of services that an advanced digital infrastructure could provide as a *technical* matter and the actual types of applications that will be sufficiently cost-effective, useful, and attractive to consumers to result in a commercially-successful product. This disparity has led at least one prominent telecommunications researcher to flatly declare that:

> [w]e cannot solve the problem of forecasting the demand for the new services that IBNs [integrated broadband networks] will make possible. It is impossible to predict with any confidence that the demand will be sufficient (however defined) to make such an infrastructure economically viable; it is also impossible to predict that it will not be sufficient.[34] (Martin 1991:63-65)

Moreover, many of the demand projections that have been made for specific "information age" applications do not stand up to even casual scrutiny. The demand estimates cited by the LECs often ignore the existence or likely development of competitive alternatives. For example, Pacific Bell recently announced plans for a pilot project to test the use of broadband fiber optic transmission for the distribution of motion picture films to movie theaters in California.[35] Pacific, in making its announcement, noted that the motion picture industry currently spends some $300-million annually to distribute prints of films to theaters across the country, and that the fiber optic distribution was an economic alternative to the existing arrangement.[36] First, there is some question as to whether video display technology has even advanced to the point where it can match the quality, clarity and brightness achievable through conventional film projection, even at the $100,000 price level for contemporary video projection equipment suitable for commercial theater use that Pacific has estimated.[37] Second, even if this threshold requirement were fully satisfied, it is not at all apparent why *real-time* transmission of films is required. If a theater were to invest the capital to acquire the video projection equipment, it could just as easily use distribution media such as videotape or laser disk for repetitive exhibitions of the same film rather than pay for a "live" feed over Pacific's fiber network. The local storage media could be delivered to the theater by courier or even the US mail for a lot less than the cost of deploying and utilizing broadband fiber. If this use of a LEC broadband infrastructure is all that anyone can think of, then we may well be talking about a technology in search of a use.

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[32] *The Economist*, December 4, 1993, 67 [emphasis supplied].

[33] Rebuttal testimony of John Krzywicki on behalf of Pacific Bell Information Services, California PUC Application 93-11-031, submitted August 8, 1994, 1:13.

[34] Martin Elton (a past Director of the Center for Telecommunications and Information Studies at Columbia Business School) has concluded that development of a broadband infrastructure should proceed in an evolutionary and market-based manner in order to minimize the societal risks of massive failed investments.

More generally, the LECs' vision of a need for *real-time* broadband distribution may well be seriously overestimated. While an on-line transport and distribution network can provide widespread access to massive amounts of data, it must compete with alternative technologies, such as low-cost local storage media like CD-ROMs. A single CD-ROM disk, which can be replicated in quantities for less than $1 (one dollar) per copy, is capable of storing in excess of one-half billion bytes of data. By way of example, the entire 840-volume F. Supp. series of Federal court decisions has been published on 12 CD-ROM disks, implying a replication cost of something in the range of $12 for the entire set.[38] Only volatile (as distinct from "static") data bases will require on-line access, non-volatile data can often be distributed at far lower cost than via real-time telecommunications, with little or no diminution in its value.[39]

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[35] "PacBell to Test Digitized Movie Transmissions," *Wall Street Journal*, March 21, 1994, A-16.

[36] *Id.*

[37] *Id.*

[38] The purchase price of this series, $6,000, is obviously far greater than its modest $12 replication cost. However, from the perspective of the *publisher*, it is that replication cost that will ultimately dictate how the database is to be distributed. CD-ROM is obviously a lot less expensive than printed volumes, and is likely also far less costly than real-time telecommunications distribution.

[39] Some have suggested that on-line distribution of data is necessary as a means for *metering* usage thereof in order to charge for access. However, significant advances in encryption technology now make it possible for such metering to be accomplished in data bases that are stored at the customer's site. For example, Apple Computer, Inc. recently sent out a mass mailing of a free *Software Dispatch CD-ROM* containing demonstrations of some 85 proprietary software products along with the encrypted programs themselves having a combined retail value in excess of $6,800. If a customer wished to purchase one or more of these products after viewing the demonstration, he/she would simply call a designated 800 number, provide a credit card and the CD-ROM serial number to the agent, and receive a decryption key for each selected product, with the applicable charges

Given the lack of real financial risk faced by LECs when deploying new technologies, it is hardly surprising that their demand forecasts for advanced services have been severely over-optimistic in the past. A comparison of the forecast and actual revenues for new network services of New England Telephone, for example, shows that more than half of its new offerings realized 20% or less of predicted revenues during their first several years of availability (see Table 1). Pacific Bell, which last year announced with great fanfare that it was spending more than $1-billion to complete the digitalization of all of its California central offices[40] (having previously spent many times that much to deploy digital switches throughout the state), has just projected annual revenues from its basic rate ISDN service at only $4.5-million.[41]

The risks associated with large-scale investments in an advanced information infrastructure prior to credible evidence of sufficient, sustained demand have been underscored by the recent collapse of the proposed mergers between several of the nation's leading cable television companies and regional Bell holding companies.[42] Clearly, this evidence confirms that the "natural monopoly" approach combined with industrial policy is neither required nor feasible for development of a viable national information infrastructure.

THE READY AVAILABILITY OF PRIVATE RISK CAPITAL

Another condition that might justify government intervention, is the prospect that sufficient private risk capital may not materialize to fund the national information infrastructure. The accelerating pace of investments in information technology and related markets appears to strongly contradict this possibility. In fact, there is no evidence that the national information infrastructure suffers from a lack of private risk capital. In its annual review of the nation's industrial economy, the US Department of Commerce has specifically recognized this trend in the electronic information services market:

> Electronic information services grew 16 percent in 1993 to an estimated $13.6-billion, slightly faster than the previous year's 15 percent increase. The

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appearing on the next monthly credit card bill.

[40] See, *New York Times*, January 26, 1993, 3, C 1.

[41] Pacific Bell Advice Letters Nos. 16469, February 19, 1993; 16955, March 28, 1994; and 16836, November 17, 1993.

[42] See, e.g., "Southwestern Bell and Cox Cancel Venture," *Wall Street Journal*, April 6, 1994, A3.

> industry continues to attract new suppliers and customers. Investors' keen interest is shown by increasing attendance at the Information Industry Association's annual investor conference, from 150 in 1992 to 600 in 1993."[43]

The Commerce Department also forecasts average annual growth in electronic information services in excess of 15% for the next five years, and cites the "explosive growth" in the quantity of on-line services over the past 15 years.[44] Strong private investment is also occurring in other areas that will contribute to the development of the national information infrastructure. The major Competitive Access Providers ("CAPs"), such as MFS Communications, Teleport, and Local Telecommunication, Inc. "are buying switches to provide Centrex, integrated service digital network offerings, signaling system 7 and metropolitan area networking that compete directly with LECs."[45] MFS Communications, for example, recently expanded its networks in six major cities and northern New Jersey, and according to its President and Chief Operating Officer, "[o]ur plan is to expand to 75 markets over the next three to five years. [o]f those, around 65 will be domestic and 10 will be international."[46] Microsoft is reported to be spending $100-million a year on research and development aimed at "build[ing] an interactive TV franchise that will match its dominant position in personal computers."[47] Motorola continues to actively pursue development of the ambitious "Iridium" system, which is intended to provide a range of advanced personal communications services through a network of low-earth orbit satellites by 1998. The trade press notes that "[t]he $3.4-billion Iridium project... has drawn binding investor commitments and initial cash payments."[48] At this stage, there is no evidence to suggest that an infusion of government money — or indeed, funds supplied by captive customers of the price cap LECs — is needed in order to spur development in this sector.[49]

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[43] *US Industrial Outlook 1994*, January 1994, US Department of Commerce, 25-2. The previous year's version opined that "[t]he long term outlook for the electronic information services industry has never been better, despite challenged faced by the industry. ... Investor confidence in information services is high." *US Industrial Outlook 1993*, 25-3.

[44] *Id.*, 25-2, 25-3.

[45] "Can Mid-size LECs Succeed in Tomorrow's Competitive Marketplace?" *Telephony*, January 17, 1994, 32.

[46] "MFS expands in the U.S. and beyond," *Telephony*, February 21, 1994, 9 and 16.

[47] *Wall Street Journal*, March 21, 1994, R16.

[48] "Scientific Atlanta wins Iridium deal," *Telephony*, February 7, 1994, 10.

[49] Some might argue that a specific service may never be offered without a certain level of government intervention. For example, if the public were to determine that additional stimulus is needed to ensure universality of advanced telecommunications facilities (e.g., access by schools, hospitals, and other agencies), then targeted programs should be devised for that purpose alone, filling the "gap" between the market allocation and the desired outcome. Moreover, such initiatives should be even-handed with respect to the supplier, rather than giving preference or sole responsibility/opportunity to the LECs. for example, public funds to build advanced facilities to link schools, high-cost rural areas, etc. to the national network should be allocated via a

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CONCLUSION

Our research shows that it would be a serious and enormously costly error if this country were to pursue a government-sponsored "industrial policy" in order to create additional *financial incentives* for accelerated LEC deployment of facilities underlying the "local links" of the national information infrastructure.[50] While there are several steps that government agencies can take to guide LEC investment and other decisions to stimulate deployment of a ubiquitous advanced telecommunications infrastructure, the majority of these measures properly fall outside of the rate- and revenue-setting mechanism, and include important policy initiatives that government agencies have already undertaken.[51] If the US economy will benefit from expending its resources on the acquisition of telecommunications assets, there is no reason to believe that this cannot and will not be accomplished most efficiently and responsively through competitive marketplace processes; government involvement in these decisions and in the deployment of capital for telecommunications vis-a-vis other economic sectors cannot substitute for the marketplace, and should not be permitted to do so.

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bidding system that is open to LECs, CATV operators, Competitive Access Providers ("CAPS"), and any other qualified providers.

[50] Similarly, it would also be incorrect to prescribe targets for the deployment by price cap LECs of specific technologies into the local infrastructure, such as penetration of optical fiber facilities into the local loop.

[51] The most important of these initiatives has been to create conditions more conducive to competitive entry in those sectors of the interstate telecommunications market where it is feasible. The FCC's initiatives with respect to the restructuring of local transport pricing, collocation for special and switched access, and 800 database, are the types of actions that need to take place to increase the competitiveness of the local infrastructure.

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ASSIGNING THE COSTS AND SHARING THE BENEFITS OF JOINT-USE PLANT AND OTHER COMMON RESOURCES BETWEEN MONOPOLY AND COMPETITIVE SERVICES

Lee L. Selwyn*

Introduction

It has by now become a recognized and routine practice for local exchange carriers (LECs) to offer services in both monopoly and competitive markets, utilizing the same common plant infrastructure and many common corporate resources in the production of services furnished under a variety of market conditions. Involvement by LECs in monopoly and competitive markets regularly occurs on an integrated basis, often without any structural separation between those organizational units that provide monopoly services subject to ongoing economic regulation and those which are engaged in loosely-regulated or non-regulated competitive ventures. Such integrated operation affords the LEC — and the economy generally — the opportunity to realize potentially significant "economies of scope" through the joint provision of multiple services within the same common resource base. But it also confronts the integrated LEC with numerous perverse incentives to shift costs and revenues in ways that create often large financial and strategic gains for the company's owners while forcing captive customers of the LEC's monopoly services to effectively cross-subsidize its competitive initiatives. While these concerns have been widely recognized, no comprehensive solution, that both protects monopoly ratepayers while assuring maximum gains from integrated production, has yet been offered. Indeed, some of the proposed "solutions" — so-called "price cap" regulation and other "incentive regulation" paradigms — will not only fail to eliminate the misallocation incentives, but may well make it even easier for the integrated LEC to pursue them.

In this paper, we will explore the full range of concerns raised by integrated production of monopoly and competitive services, explain why these are not remedied through "price caps" or other incentive regulation programs, and offer a specific solution that can be implemented as a *prerequisite* to any other regulatory reform initiative. No "incentive regulation" program can be relied upon to accomplish a fair and economically sound assignment of costs and allocation of benefits in the face of pervasive joint production unless the joint cost issues are addressed directly and as a threshold to further regulatory reform.

The "joint cost" problem

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When a public utility subject to economic regulation, such as a rate of return/rate base regulated (RORR) local exchange telephone company, operates both in regulated monopoly and in less- or non-regulated competitive markets, the firm will confront strong financial incentives to, wherever possible, shift costs toward the monopoly side of its business while moving revenues over to the competitive side. Such tactics would have the effect both of *increasing* the overall revenue requirement[1] for services that remain subject to economic regulation while at the same time *decreasing* the level of revenues actually generated by such services, thereby eroding earnings (from regulated services) and potentially creating an apparent shortfall that, consistent with the normal operation of ROR-type regulation, can be used by the integrated LEC to justify higher rates for its monopoly services. Proponents of price cap or other forms of incentive regulation have argued that these incentives effectively disappear once the linkage between rates for monopoly services and the costs associated with producing them is broken. However, if such misallocations of costs and/or revenues are present *prior to severing this linkage*, the preexisting cost and revenue shifts induced by RORR will simply be perpetuated into the new regime. Ideally, and as a threshold requirement for any incentive regulation program, the "correct" treatment both of embedded and ongoing cost and revenue flows must be determined and implemented.

The misallocation problem becomes particularly acute as new plant additions are increasingly driven by the LEC's desire to offer new competitive services that in general will not be subject to any form of rate regulation. Ideally, such investments should be financially excluded from the "regulated" capital base, but that arrangement is complicated by the fact that, once acquired, the new plant may also be used by the LEC to furnish conventional regulated monopoly services as well as those for which the new facilities were specifically required. In principle, by *permanently* splitting the LEC's asset base and ongoing asset additions as between these two segments, consumers of monopoly services (those monopoly services that would remain subject to economic regulation) can be insulated from such cost and revenue shifts that might otherwise occur in the future.[2] In particular, separation of the

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[1] The term "revenue requirement" is generally thought of as describing the aggregate level of revenues that a public utility subject to rate of return/rate base regulation (RORR) will be authorized to recover through rates for its services. As we demonstrate below, the concept of a "revenue requirement" does not evaporate under incentive regulation or "price cap" types of regulatory systems.

[2] This type of approach was recently proposed by the Canadian Radio-television and Telecommunications Commission (CRTC). In Telecom Decision CRTC 94-19 issued September 16, 1994, the CRTC adopted a new regulatory framework that, *inter alia*, includes a plan for "splitting" the rate base and associated operating costs and revenue requirements (including depreciation and return on net investment) for Canada's telephone companies into separate "Utility" and "Competitive" segments. The Commission, in that same ruling, indicated its intention to implement "price cap regulation" for services included within the "Utility" segment effective January 1, 1998, and to use the intervening three-year period as a transition to a more cost-based rate structure. In particular, by "splitting" the rate base between these two segments, the Commission seeks to establish an appropriate starting point for price cap regulation, with going-in rates to be based upon a revenue requirement developed exclusively with respect to the

(continued...)

integrated LEC's asset base into "monopoly" and "competitive" components could, if done properly, isolate the capital investments made to support competitive services as well as any price adjustments made for competitive services from those that remain monopolistic, thereby reducing the opportunities for cross-subsidies from monopoly to competitive services that are currently available to integrated telephone companies.[3] However, while the idea of assigning the LECs' rate base and associated operating costs in this manner may appear relatively straightforward at a superficial level,[4] the pervasive presence of joint and common plant and other cost elements in the production of monopoly and competitive telecommunications services would make this a highly complex and far from definitive effort.

However, the alternative to some sort of accounting-based split (or other form of cost allocation) is organizational separation of the monopoly and competitive components into structurally and operationally distinct entities.[5] Where economies of scope exist as between services furnished in both the monopoly and competitive sectors, however, formal structural separation may be a somewhat draconian measure, in that it could potentially deny consumers and the economy generally the productive efficiencies that are available through joint production of monopoly and competitive services in a common physical and organizational infrastructure. In this paper, we address two central issues pertinent to the separation of the LEC's asset base into monopoly and competitive components:

- We first explore the problems and allocation distortions that regulators will confront in seeking to prevent LECs from introducing competitively-motivated investments

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2. (...continued)
monopoly services contained within the "Utility" segment.

[3] *Id.* at 58.

[4] That this is in fact the prevalent view is demonstrated by the utter simplicity with which the FCC's Part 64 cost allocation rules are stated.

[5] Such "structural separation" might take the form of outright divestiture, as in the break-up of the former Bell System, or through the establishment of "fully separated subsidiaries" whose inter-entity transactions and information flows are governed by strict regulatory devices and rules intended to simulate "arm's length" relationships. The regulated and nonregulated activities could be placed in separate subsidiaries, be prohibited from jointly owning or sharing common plant and other resources, and be required to deal with each other at arm's length and on the same basis as any other nonaffiliated firm. Structural separation of either form may or may not preclude potential gains from integration from being realized, depending upon how it is implemented. For example, under the MFJ, the divested BOCs were required to provide AT&T (and other interexchange carriers) with access to their local switching, transport and distribution networks, and were also required (at least initially) to provide billing and collection services, although on a non-rate-regulated basis, such that at least the benefits of these particular joint-use facilities can still be realized. Where the structurally-separated firms compete with one another in certain markets (e.g., intraLATA long distance services), full access to the BOCs' joint-use facilities is not offered, and scope economies are lost.

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and other costs into the monopoly services rate base, and in maintaining some form of rate base/rate of return regulation (RORR) or variants thereof (e.g., price caps) that is predicated upon such separation.

- Assuming that these problems can be resolved, we then demonstrate why the cost separation effort, while clearly necessary, is by itself not sufficient, and that more must be done to ensure fair competition; specifically, the gains arising from joint use of common infrastructure must be apportioned between the monopoly and competitive categories in an appropriate fashion so as to assure sustainable competition.

The presence of extensive "joint use" common plant and processes in the production of monopoly and competitive services requires more than a one-time "snapshot" of the components and utilization of the integrated firm's rate base as a basis for assigning costs as between monopoly and competitive services.

Part 64 of the FCC's rules, which govern the treatment of LEC assets that are used in common to furnish both regulated and nonregulated services, require that such joint-use plant is to be allocated on the basis of the *relative use* of that joint plant by each of the two categories.[6] However, a "snapshot" of an integrated LEC's asset base taken at any given moment in time may provide a grossly misleading picture of the actual extent of joint and common *costs*, in that it will reflect only the then-current apportionment of *use* of the company's plant, rather than the *economic purposes* for which each element of that plant had been acquired. This is because the mere *use* of a particular asset to produce a given service does not *per se* imply a direct, *causal relationship* between the service and the cost of the asset in question. Plant acquired expressly for the purpose of providing a competitive service may, once in place, also be used to furnish a monopoly service that had previously been supported by facilities that were removed from service when the new equipment was installed. This may be done because (a) given that the new plant is to be deployed (albeit primarily for the competitive service) anyway, it is then most efficient to also use it to provide the monopoly service, and/or (b) because the integrated LEC, operating pursuant to such a "relative use" cost allocation standard, deliberately shifts some of its monopoly services to the new plant specifically to justify the assignment of a (potentially large) share of its added capital and operating costs to the monopoly segment. However, unless a direct causal link can be shown to exist as between the monopoly service and the investment in the new plant, there is no economic or policy basis for assigning plant in proportion to relative use.

One virtue — perhaps the only one — of the "relative use" allocation standard is that it is "auditable" in some fashion and hence can be feasibly implemented. In fact, however, plant that *appears* to be jointly used to furnish both monopoly and competitive services based upon a "relative use" analysis made *after the fact* of its acquisition may indeed be attributable in some direct manner to one or the other service category *before the fact* of the expenditure itself. For example, the acquisition of broadband transmission and switching facilities by a LEC in order to support its entry into the video and broadband services market is clearly motivated by that goal, rather than by any legitimate need to enhance the already robust and highly efficient public switched (voice) telephone network. However, if these same facilities, once having been purchased, are then *utilized* to also furnish basic voice and narrowband services, the application of a "relative use" allocator will have the effect of assigning to these inherently monopoly services some (possibly large) share of the capital investment and associated expenses incident to the LEC's broadband/video initiative. Similarly, the deployment of Signalling System 7 (SS7) was driven by the industry's desire to introduce new "intelligent" services such as Caller ID, Enhanced 800 service, and various other network routing and connectivity options *many of which can be and are provided by competing interexchange carriers*. Since SS7 facilities are now (or will shortly be) utilized for virtually all long distance (and most local) calls, only a *de minimis* fraction of the aggregate SS7 deployment outlay is effectively "assigned" to the competitive category.

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[6] 47 CFR § 64.

It is thus unreasonable to expect that a static, snapshot approach that addresses only the existing (or then-existing) stock of capital assets and the respective uses made thereof will produce a valid *causality-based* attribution of costs in terms of the *economic purpose for which the plant in question had (in the past) been acquired.* Further, it is even more unreasonable to expect that any policy established for assigning joint and common costs extant within the *embedded* rate base will be remotely relevant with respect to *future* plant additions, because extrapolations based upon *existing* plant uses and assignments (which themselves may not be accurate) will have even less basis when applied to acquisitions yet to come, where the assignment should more appropriately be determined by the factors driving the investment decisions themselves.

Because the outcome of this process will have a far-reaching and material impact upon the nature and structure of costs for monopolistic and for competitive components of the integrated utilities' business, the dominant telephone companies are strongly motivated to affirmatively steer regulators in the direction that creates the greatest overall financial and strategic benefit for these carriers, and to advance policies whose effect would be to retain as large a portion of the investment base as possible in the monopoly category. In this way, the integrated LEC would be able to:

- Generate maximum possible revenues from its captive monopoly services;

- Minimize the cost basis for its competitive services, thereby affording it substantial pricing flexibility in responding to or staving off potential competition; and

- Capture the greatest possible level of profit from its competitive services, where prices and earnings levels are not subject to regulatory constraint.

Moreover, where the same cost assignment principles are used with respect to *future additions* to the integrated firm's investment base, by arguing for maximum assignment of cost to the monopoly category, the dominant LEC can:

- Force monopoly services customers to bear the bulk of the costs and the financial risks of new and, in some cases, highly speculative investments;

- In some cases support an economic rationale for the investment strategy where a direct discounted cash flow cost/benefit analysis would indicate that the investment plan should be rejected; and

- To the extent that any profits do ultimately arise from "nonregulated services" that are made possible with the availability of the new resources, assure that such profits flow to and are captured by the *owners* of the utility company *even if for both regulated and nonregulated services combined the investment produces a net loss for the company as a whole.*[7]

Our purpose at this time is not to debate the efficacy of particular investment initiatives or their appropriateness for inclusion in the monopoly column. Rather, our present objective is to address the specific policy issues arising from the joint provision of monopoly and competitive services on an integrated basis, where the attribution of costs to each service category is complicated by:

(a) the presence of large amounts of joint and common plant and the resulting consequences for the incremental costs of new (competitive) services, and by

(b) several *mechanical* aspects of the regulatory process itself that in the past have permitted and that will in the future continue to allow an integrated utility to acquire

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[7] It is possible that the demand for and revenues potentially available from a given competitive service might not be sufficient by themselves to support the investment required for entry *unless some portion of the investment can be shifted to the monopoly category*, where its recovery can be largely assured irrespective of the economic merit of the investment itself. If this is the case, the aggregate result for the firm as a whole would be a net loss, even though the competitive service *appears* profitable by virtue of not being required to support the entire cost of the underlying capital assets. Since the integrated firm's management and shareholders can be made whole by merely increasing rates charged for monopoly services (which would otherwise be in a shortfall condition due to the infusion of new rate base investment with no commensurate revenue increase), the outcome of this process will be higher rates for monopoly services overall. Moreover, price cap regulation does not eliminate this problem, and may actually perpetuate it, if the price adjustment mechanism itself is based upon historic conditions in which precisely such cost-shifting practices had been taking place.

> specific additions or upgrades to its plant for purposes of furnishing competitive services, but that have the effect of increasing the cost basis for those services that will remain in the monopoly category.

In the following discussion, we shall explore these mechanical properties of existing regulatory cost accounting and depreciation practices, and show how they permit and frequently *conceal* cost shifts from competitive to monopoly services. In establishing rules that would enable regulators to identify and to exclude for regulatory purposes those portions of an integrated utility's rate base that were acquired for purposes of furnishing competitive services, the regulatory process itself must come to recognize and to correct for the effects of these properties.

Regulatory cost accounting and depreciation accrual processes both permit and conceal cost shifts from the competitive to the monopoly sectors of integrated LECs.

"Rate of Return Regulation" ("RORR") and recent variations thereon has served as the basis for establishing the revenue requirement for telephone utilities under its jurisdiction. The nominal "replacement" of RORR with some sort of "price cap" or other "incentive regulation" regime does not fundamentally change the basic RORR paradigm, because many of the operative parameters of a price cap system will necessarily be rooted in and/or driven by the pre-existing and ongoing influences of RORR principles, not the least of which is the "going in" rate level, the "productivity offset" inherent in the annual price adjustment formula, and the standards under which the efficacy of the price cap program may be evaluated over time.

The cost and revenue shifting incentives that exist when an integrated firm provides both regulated and nonregulated services impose risks and burdens both upon monopoly services customers and upon competing providers of the utility's nonregulated services. Accordingly, if such integrated operation is to be permitted without structural separation, a threshold principle should be adopted and strictly enforced:

> *Under no circumstances should customers of monopoly services be made worse off than they would otherwise be because monopoly and competitive services share common plant resources. Any actions taken by the utility that would have this effect should be resolved so as to impose all of the added burden squarely on those competitive services that caused the added costs to be incurred or other burdens to be suffered.*

In developing rules and processes for excluding investments and other costs motivated by competitive services from the integrated LEC's asset base, it is important that regulators recognize and understand the factors and devices that have worked to establish the existing regulatory "rate base" as well as the manner in which it will evolve over time. Accordingly, in examining the implications of pervasive joint and common costs, we first examine the forces and mechanisms that have collectively produced the existing condition.

Under RORR as well as under a future price cap regime that has its roots in the present regulatory system, the aggregate "revenue requirement" to which a utility is entitled is driven by several factors. First, the utility is entitled to earn a "reasonable" rate of return on the *net book value* of its investment — the "net rate base." Second, the utility is permitted to recover through rates, dollar for dollar, all *depreciation charges* taken with respect to its gross plant. Finally, the utility is permitted to recover through rates, dollar for dollar, all out-of-pocket operating expenses that it incurs in the course of furnishing service.

The actual means by which such "revenue requirement" costs are recovered is through the set of prices the utility charges for its various services, known generally as its "rate design." Historically, the structure of rates for individual services was not set directly in relation to the cost assignable to each such service, but in recent years utilities and regulators in the US and elsewhere have sought to make their rates more "cost-based."[8] However, because of the large amounts of joint-use plant and other common resources that are utilized to furnish a large number of different services, there is no single "correct" rate design that will automatically emerge from the application of cost-based pricing principles.[9]

One of the most serious shortcomings of the existing rate-setting process is its utter failure to relate prices to *changes* in the stock of plant and other corporate resources that may be influenced by individual services and service markets. In part this is made necessary by the extremely large capacities and high fixed costs associated with many network elements: Total costs generally do not vary much, if at all, with small changes in the quantity of output. As such, in developing costs for *individual services* it is often necessary to calculate *average unit costs* by dividing the total cost of the resource (which itself may be estimated using either embedded or incremental cost methods) by the number of units of capacity that the resource supports. Accordingly, most cost assignment processes, whether of the "embedded" or "incremental" variety, tend to assign any costs that cannot be associated directly with a particular service and/or a particular customer on the basis of some type of "relative use" measure, where "relative use" is determined by a snapshot taken either after the joint-use plant is already in place or based upon projections of the relative uses of the resource once it is put in place, rather than on the basis of the relative *need* for that joint plant by individual services.[10] But it is that *need*, rather than after-the-fact *use*, that drives the decision to acquire plant in the first place. One immediate consequence of this process is that assets can be purchased for a specific purpose, but their costs can be reassigned *after-the-fact* of that acquisition to other services simply by transferring preexisting services/customers to the new facilities.

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[8] For example, the California PUC's "Implementation and Rate Design" ("IRD") ruling, D. 94-09-065, was intended to achieve a more cost-based rate design on a "revenue-neutral" basis for Pacific Bell and GTE-California.

[9] That is not to say that some rate designs are not better than others in accurately reflecting costs and cost causality. For example, recognition of the end-user subscriber line (the "local loop") as a direct cost of serving a specific customer rather than as a joint cost common to both local and long distance service has led to the adoption of "rate rebalancing" policies under which the subscriber line cost is recovered through fixed monthly charges imposed directly upon the end user rather than through usage-based elements of local and long distance rates.

This ability to assign costs on the basis of broad averages and relative utilization affects the treatment of two types of rate-base-driven costs in particular — *depreciation* and *excess capacity*. These cost elements are rarely if ever disaggregated as between monopoly and competitive services, but instead directly follow the assignment of the underlying plant itself. To the extent that *competitive* services actually impose disproportionately larger depreciation and excess capacity costs than do services placed in the monopoly category, the effect of this process is to shift costs engendered by competitive services squarely into the monopoly column.

Depreciation. Depreciation is the process by which a utility recovers the cost of fixed assets that it acquires in order to furnish its services. Depreciation charges are recorded for a period of years *after* the initial capital outlay is made; hence, *current* depreciation charges represent recovery of *past* capital investment. Telephone companies treat their depreciation accruals on a *group basis* by assigning individual assets among a relatively small number of plant categories. Depreciation rates are reviewed and represcribed periodically, typically on a three-year cycle, based upon the pattern of plant additions and retirements. All else being equal, a consistent pattern of accelerating the retirement of embedded plant will have the effect of reducing average service lives of assets within the class, and hence will result in higher annual depreciation charges. Note that the group classifications utilized for depreciation purposes are orthogonal to the "monopoly/competitive" distinction; thus, plant placed in any particular depreciation class (e.g., central office equipment, outside plant, etc.) can be and is used jointly to support both monopoly and competitive services. And therein, of course, lies the problem: A particular plant replacement decision may be driven entirely by, for example, the desire on the part of the integrated firm to offer a particular type of competitive service, but because the plant class supports both monopoly and competitive services, the increased annual depreciation accruals that are engendered by the replacement decision will flow to *both* types of services, and not solely to the competitive category. This process can be illustrated by several examples:

- An analog electronic central office currently serves 20,000 residential and business "Plain Old Telephone Service" ("POTS") customers. The switch was installed in 1985 and has an average useful life (in terms of physical serviceability) of at least 20 years. Accordingly, at the time of its acquisition ten years ago, a 20-year depreciation schedule was used, implying an annual depreciation charge of 5%

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[10] 47 CFR § 64.

depreciation schedule was used, implying an annual depreciation charge of 5% (assuming zero net salvage value at the end of the switch's life). However, confronted with increased competition from digital PBX systems that support a number of advanced features being demanded by the business telephone systems market and that could not be supported in an analog switch, the telephone company has decided to replace all of its existing analog switches with new digital machines. In this particular office, a new switch with a 25,000 line capacity is acquired at an initial capital cost of $10-million. The in-place analog switch is retired, the company transfers all 20,000 of the existing "POTS" subscribers to the new machine, and uses the additional capacity to provide 5,000 lines of centrex service. Thus, while the entire $10-million of investment was *motivated* by the decision to compete in the centrex market, only about 20% of that outlay, or about $2-million, will actually be assigned to the competitive centrex service. In addition to bearing 80% of the cost of the new switch, customers of monopoly services will also be called upon to compensate the company for increased depreciation charges on its *embedded* asset base, because this program of early switch retirements has the effect of shortening the average remaining service life of in-place analog central office equipment, resulting in increased annual depreciation charges for that class of plant.

- The telephone utility desires to enter other new telecommunications services markets, such as video. To do this, it can either (a) construct new, entirely dedicated facilities to support the new services while continuing to utilize its existing resources to continue to provide basic (voice and narrowband) services, or (b) it can remove and replace the existing plant with new facilities that are capable of supporting both the existing monopoly service functions as well as the new competitive services. Under option (a), all embedded plant would continue to be charged to existing (largely monopoly) services, and there would be no acceleration of retirements or increases in depreciation accruals. However, in that situation, the new services would be required to carry 100% of the new investment. Under option (b), retirement of embedded plant would be accelerated, depreciation charges applicable to monopoly services would increase, and the new competitive video/broadband services would be responsible for only a (probably small) share of the new network investment costs.

These examples demonstrate how cost attributions based upon relative use, rather than upon intended purpose, can overstate costs in the monopoly category while understanding those that are properly caused by competitive initiatives. In addition to the problem of mis-assignment of new investment costs, the processes of rate base accounting and depreciation will also inappropriately impose added costs on the monopoly sector for early retirement of the plant that is being replaced. In both of the above examples (and there are others that can be cited), the premature retirement[11] of in-place plant has the effect of increasing depreciation rates for all plant in that same class, thereby elevating costs both for monopoly and for competitive services. However, by assigning a portion of the increased depreciation charges to monopoly services, the *effect* of the competition-driven capital acquisition is to *shift* a portion of the acquisition cost to the monopoly category.

It has been argued that, since the increased depreciation charges are applicable to *embedded* plant (i.e., to the plant that is being prematurely retired rather than to the plant that is being newly acquired), and since that plant was primarily (if not exclusively) used to furnish monopoly services, the increased charges should appropriately flow to those same monopoly services *even where the replacement equipment has joint monopoly/competitive uses*. The fallacy in that theory is that, while the original decision to acquire the in-place plant was (presumably) driven by the *monopoly* services that such plant was intended to support at the time it was acquired, the decision to *replace and to prematurely retire* that plant is driven by the integrated firm's interest in pursuing competitive markets. An economic plant replacement decision will be driven by a number of factors, including among other things the increased revenue-generating opportunities that may become available as a result of the new plant's ability to support new and different services. All other things being equal, if the competitive impetus (in the form of the prospect of added revenues) were not present, it is likely that many, perhaps most, plant replacement and upgrade actions would *at a minimum* be postponed or, in some cases, *not be made at all*. All other things being equal, if plant is not retired and replaced as rapidly as it would be in the presence of competition, depreciation rates will not be as high as they would be but for the presence of competition. *Accordingly, it is necessary, in apportioning the ongoing revenue requirement between the monopoly and competitive categories, to assign to the former only those ongoing depreciation charges that would have prevailed had the competitively-driven replacements and upgrades not taken place.* The telephone utilities' unique ability to apply *average*, rather than *disaggregated*, depreciation charges to both the monopoly and competitive service categories effectively permits them to force monopoly customers to bear the costs of competitively-driven early replacements of embedded plant.

Excess capacity. A similar type of averaging occurs in the case of excess or "spare" capacity. The costs of excess (sometimes described as "spare," "unused," "reserved," or "growth") capacity are also typically assigned, explicitly or implicitly, to individual services *in the same proportion as in-service capacity* irrespective of the relative need for, or expected growth in, capacity that may be required by these two categories of service.

Suppose that a particular fiber optic cable with a total capacity of 5,000 voice-grade channels is acquired and installed by the integrated LEC at a cost of $100,000. Initially, only 1,000 of these channels will be placed in use, 850 for monopoly services and 150 for competitive services; suppose further that (to keep this example simple) zero growth in the demand for the monopoly service is anticipated, but that over time considerable (although perhaps unknown) growth in demand is anticipated for the new competitive offering. There are several means by which the joint cost of this cable can be split between the monopoly and competitive categories. If the joint cost of this cable is assigned on the basis of in-service relative use, then the monopoly/competitive split would be $85,000/$15,000. This approach — where the total cost of the resource is spread across all *in-service* capacity — results in an *implicit* assignment of excess capacity in the same ratio as in-use capacity.[12] The problem with this method of assignment is that, while the *initial* apportionment of usage may be 85/15, over time the growth in the *competitive* service will be the *sole* beneficiary of the 4,000 channels of (currently) excess capacity. Yet only 15% of the investment cost required for that (excess) capacity will be carried in the competitive column.[13]

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[11] That is, a pattern of retirements that are more rapid than the original mortality curve upon which the original depreciation rate schedule was based.

The above example highlights the fact that the relative need for excess capacity may differ significantly as between monopoly and competitive services. Typically, competitive services have proportionately greater need for spare capacity either because they are growing at a faster rate than monopoly services, or because their demand is less stable such that, over any particular distribution or transmission route, there is greater volatility in demand for capacity over any given interval of time.[14] A decision by a dominant LEC to compete in a relatively

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[12] Alternatively, the per-channel cost could be calculated on the basis of total capacity (5,000 channels), in which case the per-channel cost would be $20 (i.e., $100,000/5,000). In this case, assignment of costs on the basis of $20 per channel would cover only $20,000, requiring that the $80,000 be spread in some manner. If this is done merely by spreading the 4,000 unused channels across the 1,000 in-use channels, the result is the same $100 per working channel assignment — viz. each $20 in-service channel would also carry $80 worth of unused channels. Thus, if the $100,000 total cost is simply divided by the 1,000 in-use channels, the per-channel cost would be $100; the 85 monopoly channels, at $100 each, would produce the total assignment to the monopoly category of $85,000. Under either of these approaches, if 850 in-service channels are used to support monopoly services while 150 are used by competitive services, the "split" would still be $85,000/$15,000.

[13] This problem is not cured by a subsequent reapportionment of costs based upon the then-current monopoly/competitive split, because unused capacity that is ultimately needed for and used by the competitive service will be carried on the monopoly side of the ledger until it is ultimately (physically) shifted to support the competitive service. In the present example, since all of the growth is expected to occur in the competitive sector and none at all for the monopoly service, if anything 100% of the initially unused capacity should be assigned to competitive services. This would not of course be the result of an in-service-based assignment.

[14] The demand for basic residential access is highly predictable over time, because the number of individual housing units along any given distribution cable route can be known or at least predicted with relative certainty. By contrast, the options available to larger business customers in large downtown office buildings make each customer's (and hence each building's) demand far more volatile and less predictable over time. If a 5,000-line centrex system is replaced by a customer premises PBX requiring only 500 PBX trunks, 4,500 loop pairs will have been made idle, and the amount of excess capacity in the outside plant serving that building will have undergone a considerable increase.

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volatile market segment, which may require and/or engender larger proportionate amounts of "excess" capacity, would have the effect of increasing the level of costs assigned to monopoly services.

Like the case with depreciation, the costs of spare common plant, by being assigned in precisely the same manner as in-service common plant, is effectively shifted to monopoly services when new (and often highly underused) plant is acquired for purposes of responding to competitive pressures. If plant utilization rates would be higher, all else being equal, absent the presence of competitively-driven plant additions, then any *differential* in utilization that exists as between the pure monopoly case and the hybrid monopoly/competitive joint production scenario must be assigned *in its entirety* to the competitive category.[15]

In the foregoing discussion, we have emphasized the need to avoid implicitly shifting costs motivated by the utility's desire to offer competitive services into the monopoly category through the depreciation and joint cost assignment processes. However, even if that objective can be successfully achieved, there remains the question of how the gains arising from the joint use of a common infrastructure both by monopoly and competitive services should be apportioned between these two categories. We shall turn now to that question.

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[15] Subscriber outside plant utilization rates have been declining steadily since the mid-1970s. In 1983, the California PUC found that Pacific Bell's plant utilization was inappropriately low, and imposed an explicit "underutilization penalty" on the Company that was to remain in effect until the problem was corrected. California Public Utilities Commission, D.83-12-025, 13 CPUC 2d, at 479. This phenomenon of underutilization occurred throughout US local telephone companies. In the mid-1970s, the average loop plant utilization for the Bell System companies was reported in the 70% range. *See* Selwyn, Lee L., Patricia D. Kravtin, and Paul S. Keller, "An Analysis of Outside Plant Provisioning and Utilization Practices of US West Communications in the State of Washington," prepared for the Washington Utilities and Transportation Board, March, 1990, Attachment 8. By the mid-1980s, subscriber outside plant (OSP) occupancy for the BOCs had noticeably declined. For example, the loop plant utilization reported by Pacific Northwest Bell — Washington (now US West Communications, Inc.) declined from 69.9% in 1975 to only 50.8% in 1988. ETI found that the low plant utilization rates present in Washington State could be explained by the precipitous drop in the demand for Centrex service that began shortly after 1980. ETI noted that OSP utilization levels would have remained essentially constant had the demand for Centrex (relative to PBX trunks) remained at pre-1980 levels. Unlike PBX systems that require a relatively small complement of loop pairs (PBX trunks) to serve a much larger number of individual PBX station lines (for a station:trunk ratio that is typically in the range of 8:1 to 12:1, depending upon overall system size and traffic patterns), Centrex service requires one loop pair for *each* station line since the switching function takes place at the telephone company central office. ETI speculated that the BOC in that state had continued to construct subscriber outside plant assuming that the same loop demand density would persist. Thus, US West continued to deploy plant to serve new commercial development *on the basis that at some point a customer at that business location would want to order Centrex*. This policy, of course, resulted in large quantities of unused ("spare") outside plant, whose costs would have to be spread to other services.

The economic gains and other benefits arising from joint use of common plant by both monopoly and competitive services should be used to defray the costs of the common infrastructure and other common resources of the LEC.

Assuming that it is possible to resolve the problems of cost attribution and the impact on existing monopoly services of costs incurred for the purpose of entering competitive markets, the regulator must still adopt policies designed to assure fair competition and an appropriate apportionment of the economic gains arising from the joint use of common resources by the monopoly and competitive units of the integrated LECs. In that regard, the following specific issues must be addressed:

(1) To the extent that the integrated LEC is uniquely able to exploit existing and potential shared resources for purposes of introducing and providing new nonregulated services, to what extent should it be required to make such shared resources available to its competitors, or alternatively, to what extent should the LEC's owners, rather than the totality of its customers, be allowed to derive the economic benefits resulting from such exploitation?

(2) To the extent that the introduction of competition in selected segments of the telecommunications market (e.g., intraLATA toll, local exchange service, special access) could erode the earnings previously available to integrated local telephone utilities to defray the joint and common costs of the basic network infrastructure, how much should competitors continue to be responsible for "making the LEC whole" for any loss of such revenues or, more precisely, how should "contribution" from competitors toward the joint and common costs of the network be calculated?

As we shall show, the overriding goal of economic efficiency and maximizing the productivity of the nation's economic resources requires that integrated telephone utilities make available to other telecommunications providers the efficiencies inherent in their joint and common plant and operations, and that any economic gains arising from the integrated LEC's joint production of monopoly and competitive services be used to offset any attrition of earnings or "contribution" in the monopoly segment and to defray the overall common costs of the LEC's integrated operations. Under this approach, the LEC's competitive services will in effect be responsible for recovering the stand-alone costs inherent in furnishing such services, while monopoly services will benefit from lower costs because they will carry only those costs that would not otherwise be required to support competitive services. In this way, the costs of monopoly services will be lower, and this benefit will flow broadly throughout the economy as a whole.

To the extent that the joint production of monopoly and competitive services creates efficiencies that would not otherwise be available to the telephone company or to its customers if the two service categories were subject to full structural separation, the economic gains arising from the presence of such efficiencies should in general flow to customers of *monopoly* services rather than be used to reduce the effective cost of competitive services or otherwise benefit the utilities' shareholders. As a matter of sound economic policy, such joint use should be encouraged. However, at the same time, it is essential that regulators recognize and address the economic risks that arise by such a policy if the joint use of common plant permits the integrated firm to produce its *competitive* services at a cost that is below that which would be incurred by any competitor *who did not possess the ability to commingle the production process with that for basic monopoly telephone services.* The integrated firm would almost always then be in a position to *underprice* any and all competitors and thereby to prevent sustainable entry, thus preserving its monopoly status over the long run.

Moreover, to the extent that the overwhelming majority of the jointly-used plant and operations was acquired originally to support regulated monopoly services under a regulatory paradigm in which the actual investors were largely (if not entirely) insulated from most normal business risks, it is entirely reasonable that any added value that the utility may be able to derive from that capital base and operations be used, first, to offset any "losses" that might otherwise arise due to the presence of a partially competitive market, and only then to capture the gains for its own owners and investors.

In order to determine the proper (i.e., fair and economically efficient) assignment of the costs and benefits of joint-use plant to the monopoly and competitive service categories, it is useful to consider two positions that seem inherent in many LECs' view of the world. First, with respect to the emergence of competition, LECs seem to believe that any competitor that enters and makes inroads into their traditional market(s) must render them whole for the revenue (or "contribution") that is foregone as a result of shrinking the LEC's share of the market.[16] Second, LECs seem to believe that the benefits of jointly used plant — i.e., plant that supports the provision of both monopoly and competitive services — are available either to support their own competitive initiatives or simply to increase their profits overall. These two positions — recovery of "competitive losses" and the right to flow the gains from joint production to the LEC's own benefit — would inappropriately validate the LECs' parochial perspective on competition, and deny ratepayers the full societal benefits that could ensue from (1) allowing multiple providers to offer potentially competitive telecommunications services, and (2) integrating resources to support multiple, diverse operations.

If an economy of scope exists as between a monopoly and a competitive service, permitting the integrated firm to flow any of the benefits of joint production to the competitive service will afford it an unfair advantage over any *non-integrated* competitor. Consider the case of billing and collection services. The LEC typically sends out only a single billing statement to its customers that covers both local and long distance services. By including competitive (long distance or other) services on the same monopoly (local) services bill, the integrated LEC avoids the costs of preparing and mailing a separate long distance bill and of separately processing and accounting for payments thereof. In fact, the marginal cost of including long distance services on the local services bill, which would be mailed out in any event, is negligible. Except in rare cases, the long distance billing activity does not even require an additional stamp, or an additional envelope, or additional collection processing costs.[17] Non-integrated long distance competitors might have to incur costs of between $1 and $2 per month per customer account to accomplish the same thing.[18]

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[16] For example, in the California PUC's IRD proceeding (I.87-11-033, IRD Phase), Pacific Bell argued that it should be entitled to recover "competitive losses" arising from the opening up of the California intraLATA toll market to competitive entry, a position that the Commission soundly rejected.

The theory here seems to be that since the local service bill will have to be prepared and mailed in any event, the inclusion of long distance charges represents only the *marginal* cost for the added data processing and printing and, occasionally, for additional postage. Of course, an equally compelling argument could be advanced to support reversing this particular "chicken and egg." For most residential and for many business subscriber, local telephone service is furnished on a *flat rate* basis, hence there is essentially *no variation in the monthly charge for basic local telephone service* from one month to the next. Some types of billing for local telephone service only (i.e., without any long distance charges) could thus be done annually or quarterly (as it is in the UK), or otherwise be accomplished via some procedure that did not involve the use of a monthly billing statement.[19] Under this view, the *cause* of the requirement to prepare and to mail a bill to each customer each month is the inclusion of *variable* long distance charges, and it is these long distance services, and not the fixed-priced local service, that should be responsible for the base level of billing costs.

Although the integrated telephone utility might prefer to "piggy-back" its long distance bill on the local service bill (on the basis that the latter will be sent out in any event), its refusal to make the same low-marginal-cost service available on an equivalent basis to its IXC competitors means that competitors must incur a cost that the telephone company can, in

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[17] The benefits of such joint provisioning extend well beyond the ability to avoid the costs of a second envelope and postage stamp. For example, precisely because the toll charges appear on the same statement as the charges for the basic local exchange service, customers are more likely to pay the charges than for a strictly "non-utility" bill. Delinquency or tardiness on a competitor's toll bill (i.e., one that simply includes toll charges) are more likely than on a LEC bill which is "imprinted" with the image and history of a "public utility."

[18] Some of the billing and collection costs may include hardware costs (maintaining a computerized system to handle a comprehensive database of customer and pricing information); software costs (developing and maintaining programs to retrieve and print information); customer representative costs (responding to customer queries and complaints about charges); legal and administrative costs (following up on delinquent bills); and postage and printing costs.

[19] For example, the customer could be provided with a booklet of 12 pre-printed coupons, one for each month of the year, along with pre-addressed reply envelopes. Each month, the customer would tear out one such coupon and mail it with his or her check back to the telephone company in the provided reply envelope.

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effect, avoid. But what if the local service bill is considered to be "piggy-backed" on the long distance bill? Since any firm that is engaged in the (competitive) long distance business will necessarily have to prepare and mail bills to its customers, it is reasonable to require the competitive long distance service component of the integrated telephone company to similarly pay for the costs of preparing and mailing its bills. However, since the bill will be prepared anyway for long distance calling services, it is *efficient* for the integrated telephone company to include, at little or no added cost, the billing for basic (monopoly) telephone service. The differences between this case and the earlier approach are that (a) the integrated LEC's competitive services are not benefitted from the joint billing activity in a manner that is not available to other long distance competitors, and (b) the economic efficiencies arising from the joint billing activity are not sacrificed, but are merely shifted from the competitive to the monopoly service column.

Alternatively, the integrated firm might (either by choice or by regulatory fiat) make the very same billing efficiencies available to any non-affiliated long distance service competitor by offering to sell that competitor its billing and collection services at a price that is no greater than that which the non-affiliated competitor would incur on a stand-alone basis, and to impute that same charge for billing and collection service into its own (competitive) long distance and other services. Here economic efficiency is still achieved (indeed, enhanced, because additional joint billing activities will now be supported), but unlike the first case there is no specific requirement that the price charged or imputed for the joint activity be set at the stand-alone cost. Instead, all that is required is that the same price be charged both to the integrated firm's own competitive business as is charged to non-affiliated competitors, *and that all of the excess of revenues over costs be treated as "contribution" and flowed to the monopoly sector.*[20]

The principle of ensuring that the monopoly service category is adequately compensated for use of common plant and other resources by competitive services pertains to all of the integrated LEC's joint functions. There are, basically, two alternative means for assuring both that potential economies of joint production are realized by the economy generally while at the same time assuring that the flow of the joint benefits is directed in a manner that neither produces an unfair competitive advantage for any participant or that creates a undeserved windfall for the utility itself:

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[20] Yet another variation on this approach would be for the competing long distance provider, which performs its own billing and collection operations, to include the local telephone company's basic monthly local service charge on the competitor's long distance bill, and to charge the local telephone company a price for this billing and collection service that is less than the stand-alone cost that the telephone company would itself incur.

Option 1. Allow competitors comparable access to integrated resources

> Under this approach, the integrated LEC allows competitors to have access to its integrated resources at the same prices, terms, and conditions as apply when these resources are utilized by the LEC's own competitive services operations. The total of the charges for these resources (those imputed as implicit costs to the LEC's competitive operations *and* those explicit charges paid for in cash by non-affiliated competitors) should then be carried as *monopoly services revenues* and be used as an offset against the amount needed to recover foregone contribution. Under this option, there is no specific level at which the "price" charged or imputed for access to the joint resource is set, except that (a) it must be no greater than the stand-alone cost that a competitor would incur without benefit of access to the joint production activity, and (b) that such prices be imputed as costs to the competitive sector and such payments and imputations be carried as *monopoly services revenues* to be counted against the aggregate monopoly services revenue requirement.[21]

Option 2 Impute to the LEC's competitive operations the full (stand-alone) costs associated with any use of common resources and plant

> If the integrated LEC is not expressly required to offer, and does not offer, shared access to its joint plant and other resources, the utility should be required to impute to the competitive side of its business the full stand-alone costs associated with replicating the service in question that is presently being offered on an integrated basis — i.e., the costs that the competitive division would incur were it to replicate the service and/or plant on a stand-alone basis.

More generally, the integrated local telephone utility should be required either to "sell" its scope economies to competing service providers at a reasonable cost and charge the same to its competitive services, or impute to its competitive services and transfer out of its monopoly services the full stand-alone cost that the competitive segment or any other competitor would be required to incur if the function were to be supported on a stand-alone basis.

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[21] Note that the adoption of price cap regulation may make a nullity of the imputation requirement, at least in the short run. Under price caps, the fact that additional revenues (in this case, those imputed over to the monopoly category from the provision of joint-use resources to competitive services, as well as those collected in cash from the provision of these same resources to non-affiliated competitors) are treated in the monopoly category may not directly offset the residual revenues to be generated from other monopoly services. Presumably, before price cap regulation is implemented, the relationships among all of these actual and imputed revenues and costs can be identified and captured by the price cap mechanism itself.

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Compensating the monopoly operations adequately for the use of common plant and other common resources by the competitive operations does not mean that society should forego the benefits of integration.

The fact that there is an effort associated with properly attributing the costs and benefits of joint plant (or resources) does not mean that society need forego the benefits of integration; in fact, to do so would result in an undesirable deadweight loss to the economy as a whole.[22] Rather, assuming that there are efficiencies associated with maintaining and utilizing joint plant, one need only address the question of how to allocate the benefits of these efficiencies, rather than the threshold question of whether the efficiencies themselves should be realized or foregone.

As a general principle, the assignment of benefits should follow the assignment of costs. If the integrated LEC is to be made whole through prices it is permitted to charge for services placed in the monopoly category (including those "essential" access services that are furnished on a monopoly basis to competitors) for all of the costs of its core network, then all of the benefits flowing from the joint use of that core network for monopoly and competitive services should flow to the monopoly side of the integrated firm's business.

There are, however, certain instances where the *identification* of gains from integration are more difficult to precisely measure. Consider the case of the deployment of advanced infrastructure that may support both monopoly telephony services and competitive video ventures. It is theoretically possible that if undertaken solely to support *either* the monopoly operations *or* the competitive operations, certain network modernization programs, such as the deployment of broadband facilities, could not be economically justified, but that if undertaken for *both* the monopoly operations *and* the competitive operations, broadband construction could be economically justified.[23] Under this hypothetical scenario, neither the additional *monopoly* revenues (and reduced expenses) nor the *competitive* revenues (and reduced expenses) that would result from the deployment of broadband — *if examined in isolation* — would justify the costs associated with such deployment. By contrast, under this illustrative scenario, the *combined* cash flow analysis would justify the cost. If this were the case, it would then be necessary to assign the joint costs to the respective operations.[24] *Regardless of the method of cost assignment*, however, it is essential that the utility be able to demonstrate that the expected *incremental* revenues (and other benefits, such as cost avoidance) that will be assigned to the monopoly service category offset the cost that will be allocated to the monopoly telephony operations, thereby justifying participation in the investment.[25]

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[22] In economic theory, a "deadweight loss" occurs when a resource is wasted, such as the non-use of available capacity in the public telephone network. Deadweight losses are frequently the result of "allocative inefficiencies" that occur when the pricing mechanism is subjected to artificial constraints or other distortions, and is not permitted to function as it should in allocating society's resources to their most valuable use. Effective competition, among other things, should minimize such allocative inefficiencies. See, e.g., Samuelson, Paul A., *Economics*, McGraw-Hill, 1976, at 518-520.

[23] This is probably not the case with respect to the various "broadband network" or "information superhighway" proposals being advanced and pursued by the dominant LECs. Not only are the billions of dollars required for such network upgrade program not cost-justified for either the (monopoly) telephony-only or a (competitive) video/broadband-only scenarios, it is also not likely to survive an economic cost/benefit test even if the new resources are jointly used to support both traditional telephone services as well as new video program delivery and broadband transport. See Selwyn, L. *et al.* "Cable Television Competition in Canada," Boston, Mass.: Economics and Technology, Inc., 1995, prepared for the Canadian Cable Television Association for submission in *Order in Council 1994-1689, Public Notice CRTC 1994-130*, filed January 16, 1995.

Because so much of the LECs' asset base is comprised of common plant, there is no simple physical analogue under which a definitive attribution of costs to the new broadband and video services can be accomplished. Yet the larger the share of total plant that is assigned to monopoly services, the more difficult it will be for any would-be competitor to enter and to succeed in the marketplace. The approach that appears to be favored by the LECs is that all joint-use, common plant be assigned to monopoly services, and that services placed in the competitive category be required to carry only those costs that are *directly attributable* to competitive services, i.e., those that are "incremental" to the provision of basic monopoly services and that would not be incurred were the LECs' output limited to only those monopoly services. Viewed on a static basis, the effect of such an assignment would be to confer *all* of the benefits attributable to integrated provision of the monopoly and competitive services onto the competitive services and, since there is no earnings limit on competitive services, onto the utility's shareholders. Viewed dynamically, the effect of this type of assignment would likely be actually to impose *additional costs* upon captive customers of the LEC's monopoly services.

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[24] If two parties share the costs of digging a trench because the cost — if halved — is justified by the respective benefits, then it would not be appropriate to require each party to attribute the full cost of the trench-digging to the operation in question. On the other hand, it would be necessary to determine a basis of assigning the costs between the two participants in the project.

[25] Note that the portion of the joint plant acquisition program that is assigned to the monopoly segment must still be economically justified in all respects. For example, if the telephone company intends that all incremental revenues attributable to the provision of broadband and video services be classified as competitive and hence be excluded from the utility's revenue requirement, then the economic analysis that is developed to support the allocation of some specific portion of the joint plant acquisition program to the utility sector cannot include any incremental revenues. Instead, that economic analysis would have to be driven by cost avoidance, intangible gains from improvement in service quality, or some other (non-revenue) factors.

Conclusion

This paper has served to highlight the complexities and considerable difficulties that confront regulators in their attempt to permit integrated operation, capture for the overall economy the gains available through joint production of monopoly and competitive telecommunications services, while at the same time assuring that those gains are appropriately flowed through to the economy and that competition and competitors are not disadvantaged. The paper has discussed a number of fundamental principles, which are summarized here:

- Regulators should recognize that there are, in fact, mechanical properties of the existing regulatory cost accounting processes that permit and that frequently *conceal* cost shifts from competitive to monopoly services, processes that must be recognized and corrected. In particular, regulators should not merely extrapolate historic conditions relating to usage, cost attribution, productivity, and other factors in designing policies to deal with future additions to the utility's rate base and, more generally, the regulatory paradigm that will apply in the mixed monopoly/competitive environment. Rather in assigning costs as between the monopoly and competitive sectors, regulators should focus upon the *purpose* for which such costs were initially incurred, and the *effects* that future rate base additions will have upon recurring depreciation and excess capacity costs that may be assigned to the monopoly category.

- The overriding goal of economic efficiency and maximizing the productivity of the nation's economic resources requires that integrated LECs make available to other telecommunications providers the efficiencies inherent in the LECs' joint and common plant, either by permitting these efficiencies to be shared among all competitors, or by imputing all economic benefits arising from integrated operations to the competitive activity and treating them as monopoly services revenues. In general, shared use is preferable because it maximizes the use of joint resources.

- Any economic gains arising from the integrated LEC's joint production of monopoly and competitive services should be used to defray the joint and common costs inherent in the operation of the LEC's common capital and organizational resource base. Projections of future LEC operating conditions, including costs, revenues, productivity, and other factors, should reflect the availability of such gains to the monopoly services segment.

Statement of Qualifications

DR. LEE L. SELWYN

Dr. Lee L. Selwyn has been actively involved in the telecommunications field for more than twenty-five years, and is an internationally recognized authority on telecommunications regulation, economics and public policy. Dr. Selwyn founded the firm of Economics and Technology, Inc. in 1972, and has served as its President since that date. He received his Ph.D. degree from the Alfred P. Sloan School of Management at the Massachusetts Institute of Technology. He also holds a Master of Science degree in Industrial Management from MIT and a Bachelor of Arts degree with honors in Economics from Queens College of the City University of New York.

Dr. Selwyn has testified as an expert on rate design, service cost analysis, form of regulation, and other telecommunications policy issues in telecommunications regulatory proceedings before some forty state commissions, the Federal Communications Commission and the Canadian Radio-television and Telecommunications Commission, among others. He has appeared as a witness on behalf of commercial organizations, non-profit institutions, as well as local, state and federal government authorities responsible for telecommunications regulation and consumer advocacy.

He has served or is now serving as a consultant to numerous state utilities commissions including those in Arizona, Minnesota, Kansas, Kentucky, the District of Columbia, Connecticut, California, Delaware, Maine, Massachusetts, New Hampshire, Vermont, New Mexico, Wisconsin and Washington State, the Office of Telecommunications Policy (Executive Office of the President), the National Telecommunications and Information Administration, the Federal Communications Commission, the Canadian Radio-television and Telecommunications Commission, the United Kingdom Office of Telecommunications, and the Secretaria de Comunicaciones y Transportes of the Republic of Mexico. He has also served as an advisor on telecommunications regulatory matters to the International Communications Association and the Ad Hoc Telecommunications Users Committee, as well as to a number of major corporate telecommunications users, information services providers, paging and cellular carriers, and specialized access services carriers.

Dr. Selwyn has presented testimony as an invited witness before the U.S. House of Representatives Subcommittee on Telecommunications, Consumer Protection and Finance and before the U.S. Senate Judiciary Committee, on subjects dealing with restructuring and deregulation of portions of the telecommunications industry.

In 1970, he was awarded a Post-Doctoral Research Grant in Public Utility Economics under a program sponsored by the American Telephone and Telegraph Company, to conduct research on the economic effects of telephone rate structures upon the computer time sharing industry. This work was conducted at Harvard University's Program on Technology and Society, where he was appointed as a Research Associate. Dr. Selwyn was also a member of the faculty at the College of Business Administration at Boston University from 1968 until 1973, where he taught courses in economics, finance and management information systems.

Dr. Selwyn has published numerous papers and articles in professional and trade journals on the subject of telecommunications service regulation, cost methodology, rate design and pricing policy. These have included:

"Pricing Telephone Terminal Equipment Under Competition"
Public Utilities Fortnightly
December 8, 1977

"Deregulation, Competition, and Regulatory Responsibility in the Telecommunications Industry"
Presented at the 1979 Rate Symposium on Problems of Regulated Industries - Sponsored by: The American University, Foster Associates, Inc., Missouri Public Service Commission, University of Missouri-Columbia
Kansas City, MO - February 11 - 14, 1979

"Sifting Out the Economic Costs of Terminal Equipment Services"
Telephone Engineer and Management
October 15, 1979

"Usage-Sensitive Pricing" (with G. F. Borton)
(a three part series)
Telephony
January 7, 28, February 11, 1980

"Perspectives on Usage-Sensitive Pricing"
Public Utilities Fortnightly
May 7, 1981

"Diversification, Deregulation, and Increased Uncertainty in the Public Utility Industries"
Comments Presented at the Thirteenth Annual Conference of the Institute of Public Utilities
Williamsburg, VA - December 14 - 16, 1981

"Local Telephone Pricing: Is There a Better Way?; The Costs of LMS Exceed its Benefits: a Report on Recent U.S. Experience."
Proceedings of a conference held at Montreal, Quebec - Sponsored by Canadian Radio-Television and Telecommunications Commission and The Centre for the Study of Regulated Industries, McGill University
May 2 - 4, 1984

"Long-Run Regulation of AT&T: A Key Element of A Competitive Telecommunications Policy"
Telematics
August 1984

"Is Equal Access an Adequate Justification for Removing Restrictions on BOC Diversification?"
Presented at the Institute of Public Utilities Eighteenth Annual Conference
Williamsburg, VA - December 8 - 10, 1986

"Market Power and Competition Under an Equal Access Environment"
Presented at the Sixteenth Annual Conference, "Impact of Deregulation and Market Forces on Public Utilities: The Future Role of Regulation"
Institute of Public Utilities, Michigan State University
Williamsburg, VA - December 3 - 5, 1987

"Contestable Markets: Theory vs. Fact"
Presented at the Conference on Current Issues in Telephone Regulations: Dominance and Cost Allocation in Interexchange Markets - Center for Legal and Regulatory Studies Department of Management Science and Information Systems - Graduate School of Business, University of Texas at Austin
October 5, 1987

"The Sources and Exercise of Market Power in the Market for Interexchange Telecommunications Services"
Presented at the Nineteenth Annual Conference - "Alternatives to Traditional Regulation: Options for Reform" - Institute of Public Utilities, Michigan State University
Williamsburg, VA, December, 1987

"Assessing Market Power and Competition in The Telecommunications Industry: Toward an Empirical Foundation for Regulatory Reform"
Federal Communications Law Journal
Vol. 40 Num. 2, April 1988

"A Perspective on Price Caps as a Substitute for Traditional Revenue Requirements Regulation"
Presented at the Twentieth Annual Conference - "New Regulatory Concepts, Issues and Controversies" - Institute of Public Utilities, Michigan State University
Williamsburg, VA, December, 1988

"The Sustainability of Competition in Light of New Technologies" (with D. N. Townsend and P. D. Kravtin)
Presented at the Twentieth Annual Conference - Institute of Public Utilities Michigan State University
Williamsburg, VA, December, 1988

"Adapting Telecom Regulation to Industry Change: Promoting Development Without Compromising Ratepayer Protection" (with S. C. Lundquist) *IEEE Communications Magazine* January, 1989

"The Role of Cost Based Pricing of Telecommunications Services in the Age of Technology and Competition" *Presented at National Regulatory Research Institute Conference*, Seatle, July 20, 1990.

"A Public Good/Private Good Framework for Identifying POTS Objectives for the Public Switched Network" (with Patricia D. Kravtin and Paul S. Keller) Columbus, Ohio: *National Regulatory Research Institute*, September 1991.

"Telecommunications Regulation and Infrastructure Development: Alternative Models for the Public/Private Partnership" *Prepared for the Economic Symposium of the International Telecommunications Union Europe Telecom '92 Conference, Budapest, Hungary*, October 15, 1992.

"Efficient Infrastructure Development and the Local Telephone Company's Role in Competitive Industry Environment" *Presented at the Twenty-Fourth Annual Conference, Institute of Public Utilities, Graduate School of Business, Michigan State University, "Shifting Boundaries between Regulation and Competition in Telecommunications and Energy", Williamsburg, Virginia.*

"Measurement of Telecommunications Productivity: Methods, Applications and Limitations" (with Françoise M. Clottes) *Presented at Organisation for Economic Cooperation and Development, Working Party on Telecommunication and Information Services Policies, '93 Conference "Defining Performance Indicators for Competitive Telecommunications Markets", Paris, France*, February 8-9, 1993.

"Market Failure in "Open" Telecommunications Networks: Defining the New "Natural Monopoly" *Presented at the Tenth Michigan Conference on Public Utility Economics, Western Michigan University, Kalamazoo, Michigan*, March 26, 1993. Also forthcoming in *Utilities Policy*, January, 1994.

"Telecommunications Investment and Economic Development: Achieving efficiency and balance among competing public policy and stakeholder interests" *Presented at the 105th Annual Convention and Regulatory Symposium National Association of Regulatory Utility Commissioners, New York*, November 18, 1993.

"The Potential for Competition in the Market for Local Telephone Services"

(with David N. Townsend and Paul S. Keller)
Presented at the Organization for Economic Cooperation and Development *********Conference*, December 6-7, 1993.

"Market Failure in Open Telecommunications Networks: Defining the new natural monopoly," *Utilities Policy*, Vol. 4, No. 1, January 1994.

"The Enduring Local Bottleneck: Monopoly Power and the Local Exchange Carriers," (with Susan M. Gately, et al) a report prepared by ETI and Hatfield Associates, Inc. for AT&T, MCI and CompTel, February 1994.

Dr. Selwyn has been an invited speaker at numerous seminars and conferences on telecommunications regulation and policy, including meetings and workshops sponsored by the National Telecommunications and Information Administration, the National Association of Regulatory Utility Commissioners, the U.S. General Services Administration, the Institute of Public Utilities at Michigan State University, the National Regulatory Research Institute at Ohio State University, the Harvard University Program on Information Resources Policy, the Columbia University Institute for Tele-Information, the International Communications Association, the Tele-Communications Association, the Western Conference of Public Service Commissioners, at the New England, Mid-America, Southern and Western regional PUC/PSC conferences, as well as at numerous conferences and workshops sponsored by individual regulatory agencies.

The CHAIRMAN. Many Senators have had other markups, and hearings, and caucuses, so I am going to allow my two colleagues to ask their questions first, because they have conflicting schedules. Senator Stevens.

STATEMENT OF SENATOR STEVENS

Senator STEVENS. Thank you very much, Mr. Chairman.

I apologize to the witnesses for not being here all the time.

Mr. Huber, you are very patient there. We do see you, and I hope that you are still there. It is not one of these tapes that you play over and over again to make the statement. [Laughter.]

Senator STEVENS. Gentlemen, I would like to address the problem and just ask you for your comments on it. I represent a State that is one-fifth the size of the United States, has over 200 separate native villages, over 100 small cities that are really in the third-class level, they do not have the population or the tax base to support the government beyond that.

They now are seeing the great advances in telecommunications that have brought us tele-education, telemedicine, teleconferencing, and we are adapting very quickly to those new pieces of technology associated with all of those concepts.

But the bottom line is, is that telecommunications of the next century in those areas is not affordable to the people who are involved in developing the new systems, or the new competitors.

I recall sitting at this table dealing with the concept of deregulation of the airlines. We fought that for a long time.

We finally came up with a concept, it was mine, as a matter of fact, of essential air service, and that has been successful, by the way, where service existed at the time of deregulation, if a carrier ceases that service, there is a way that the community can demand and obtain air service. And it is supported by the system.

Now, we have had a similar thing, in terms of universal service, and I know, George, you have had some problems with my concepts about universal service. I am sorry if I missed your statement, but I read what you were going to say.

I want to ask you, in your view of the telecommunications picture for the 21st-first century, the deregulation, I think, that most of you support, what do you do about the problem of essential telecommunications service, as we dealt with the problem of essential air service?

How would you bring about—we bring it about through some of the provisions here of the carrier last resort, of universal service, of establishing some pools, so that those funds are available to assure modernization as technology develops in the areas where there is not the cash-flow to continue to serve those areas.

And with all due respect, Mr. Geller, we are not regulating railroads, because the railroads were regulated out of existence.

We are trying to take away the last visage of regulation here, but I fear that if we go too far, people in remote areas, some of whom will be watching you today, but you have never been there, and probably do not even hope to be there, they are looking to you to help us guide telecommunications for the next century, so they will have available those things.

They will have the availability of having telecommunications with their Senator, instead of spending $1,000 just to get to Anchorage. And it is $1,500 from there to here.

Now, the telecommunications concept, if it is extended out there, will give them access to their government, too. We have photophones in my office and use them. But we do not have that capability out there yet, and even if we do, there is the question of who is going to pay for it.

I want to see a system which maintains, to the extent possible, the same advantages for cost. I call it the postage stamp system: I am sure you understand that.

That means that no matter where you make the telephone call from, it will cost you no more than calling from any other area in the country, to go the same distance, and get the same quality of service.

Now, are you all in agreement with the fact that the industry that you envision, through deregulation, taking the barriers down, will give us that system for rural America, particularly isolated rural America, like I represent?

Mr. GILDER. Yes, sir, particularly isolated rural America. A good example is direct broadcast satellite that has just emerged in the last summer, and it delivers to the most remote rural areas decidedly better and cheaper service than what previously would be called cable T.V. services, than cable T.V. does.

Senator STEVENS. How am I going to get those services there, unless they come from a broad general pool like the telephone international rate pool? How do we find some way that they can afford that service?

If the money goes into DBS to develop the rest of the country, they are not going to come to Alaska's small villages. There is no incentive for them to come, and there is no way to share revenues from that system in a rural area like mine.

Mr. GELLER. No. See, DBS, you buy a $700 antenna, it currently costs $700, and it is declining as it spreads, and put it on top of an igloo, and you have better service in Alaska than you do anywhere served by cable in the United States today. And you can——

Senator STEVENS. I interconnect with that $700 to $800 antenna, we say about $800, but let me tell you, the payments for that service is about $50 a month, and when you interconnect, you interconnect with someone else's system out there in the long-distance area, and they are not going to bring any money back into the system to help equalize the cost for those people to call to Miami or to Washington.

Mr. GILDER. Well, that is just an example of one-way satellite broadcasting. Wireless communications, through the digital revolution, are going to cost about one-tenth what they cost today, and you are going to be able to serve remote rural areas with wireless telephone service just as cheaply as you can serve urban areas. You use the same——

Senator STEVENS. But, George, and I hope the other people—I have great admiration for you, but the big pool of money is going to be the system that serves the vast population centers of the country that have the cash-flow.

The systems you mentioned will provide them service, but they have to come within this other system, and somehow or another, that system has to support them in terms of access, just like the Postal Service.

Many people do not like the Postal Service, but it still delivers mail to the areas I have talked to you about, and it costs a lot to get there, a lot more than the stamp it costs. OK?

Dr. Selwyn?

Dr. SELWYN. Senator, I share your concerns. There has been traditionally a mechanism in the revenue shifting process within the telecommunications industry to assure that rural areas and other high-cost or unusually high-cost areas receive support. That mechanism needs to be revised to recognize the presence of multiple providers.

Last year our firm authored the proposal for such revisions on behalf of the ad hoc telecommunications user's committee, which is a group of large corporate users.

Senator STEVENS. I remember that. Yes.

Dr. SELWYN. I would be happy to provide for the record a copy of that proposal, which calls for, among other things, contributions by all local access providers to a revenue pool that can be utilized for the kinds of purposes that you have outlined.

Senator STEVENS. We have something similar to that here in this essential communications services section of this bill. Senator Pressler, I would call your attention to that. Dr. Mayo?

Dr. MAYO. Senator, I think you put your finger on a very, very important issue of preserving and promoting universal service, while at the same time, introducing competition.

I think the one thing perhaps that everybody in this room would agree on is that we have a very sound goal of promoting universal service in this country, and the question is, how are we going to do it as we open markets to competition.

The way we have done it in the past, I would assert to you, is not a good way of promoting universal service, and it is going to get worse as we open markets up to competition, and that is, what we have done is to generally have a set of untargeted subsidy funds that go to Alaska, or South Dakota, or wherever you would like, give those billions of dollars to companies, and hope that they go forth and do good in promoting universal service.

There is no need for probably you to get a subsidy on your local telephone bill in Alaska, nor is there a need for me to get a subsidy in Knoxville, Tennessee, on my telephone bill.

Lots of us can afford telephone service, but there are those, as you have identified, that cannot afford telephone service.

What we generally should do is target assistance to those individuals who are in need of assistance, and would drop off the system in the absence of a subsidy.

We could promote universal service far more efficiently if we would do that, and we would facilitate the promotion of competition if we would do it that way.

Senator STEVENS. Dr. Mayo, I thank you for that.

The Postal Service, in effect, the rate payers subsidize delivery of mail in those areas where it costs more to deliver it than you get from the stamp, or the postage.

Today, the same thing is true in terms of long distance. As we get additional entries into this long distance, and we break down the concept and allow the regional—the question is, how do you handle the pool, and should there be a pool, so that if you call from your home in Tennessee to Washington, you are paying a very small amount on that, that will cover it to make sure the people from Alaska can also call to Washington.

Now, I am not sure you accept that concept of rate payer pool, but it basically is underneath this bill, and I see it as the mechanism for taking away some of these barriers, because, as we did in the airline area, if we do not do it, we will isolate several areas of America in the 21st-first century, and if we do, the cost to the taxpayers will greatly outweigh the cost to the rate payers, if we do it right, as technology evolves.

Now, I see a reluctance of some of my friends to accept the concept of some sort of pool that applies without regard—Dr. Selwyn, thank you very much.

We understand you have to leave.

Dr. SELWYN. I apologize.

Senator STEVENS. I am taking more time than I should. But I just wanted to get in one more comment, if I can. How do we assure that the system you envision, with these multiple entrants, multiple different-level systems, broadband on one hand, cable on another, telephone on another, satellite communications, all of them going through a system, how do we assure that the system that serves rural America will obtain the kind of rate payer support from the rest of the country, that we will come in and stay in the 21st-first century with everyone else?

Mr. GILDER. It will not be more expensive to serve rural customers than urban customers. They will both cost exactly the same amount to serve. Actually, it may turn out to be——

Senator STEVENS. Well, George, we get the money out of the rate pool now that will be destroyed by this bill. Let us make sure we understand, that rate pool will no longer be there to serve us.

Unless we create a new rate pool that will assure service to rural America, they will not have the advantage of the long-distance interstate rate pool. Now, do not lose sight of the fact that that pool is going away.

Mr. WHITEHEAD.

Mr. WHITEHEAD. I agree with Mr. Gilder in the premise that technology is going in a direction that is going to greatly alleviate this problem, and particularly when we have competition.

I recall very fondly, Senator Stevens, when I was up here promoting competition many, many years ago, before it became fashionable, that you were one of the great stalwarts in supporting that.

Senator STEVENS. I believed, as I do now, that it has brought us what we have.

Mr. WHITEHEAD. You are absolutely right.

Senator STEVENS. But it has all been within a global system, and now there is going to be a spatial system now.

Mr. WHITEHEAD. You are right. And you were also very effective at that time in educating me about the complexities of universal service and the importance of it.

I think we all have to realize that economists inherently do not like pools of funds, they are counterproductive in some ways of economic efficiency, but I think—and it certainly is presumptuous of me to remind you of this—but you have to keep in mind, and the economists, and the people have to keep in mind, that this is a democracy, where communications plays an especially important role, compared to other industries.

It is important that people can communicate with their Senators. It is important that they can see things on television.

We cannot just let economics rule. We also have a principle that is in full bloom before us here today where States, geographical regions, have a special play. So people who are out in remote regions do, under our system of government, merit a mechanism for getting universal service. I think you cannot do it without certain kinds of pools.

The key to that is to limit the pools in two ways. No. 1, you here in the Congress have to decide to some extent what kinds of services we are going to extend to everybody, and second, you have to target the money to the people who need the service, rather than just letting it willy nilly flow through the corporate environments.

Senator STEVENS. That is what we did with air service.

Mr. Chairman, I have taken too much of your time.

Mr. Huber, you have been very patient. Do you have any comments on my questions?

Mr. HUBER. I have just some brief ones, Senator. If you look at where postage stamp pricing has, in fact, been implemented in the market today, you see that has advanced the most in the markets that have been opened up the most to competition.

We see it in data transport, for example, Internet access, and we see it growing in the wireless industry.

I truly share your concern and interest in maintaining universal service. I think it is of value for all Americans to have the remotest areas of Alaska connected, but I also sincerely believe that by at least significantly loosening up the market forces here we will get more of that, not less.

Senator STEVENS. Thank you very much for that.

I will close with this, Mr. Chairman. I have not told you about this.

I heard about a new development in one of the islands that is just adjacent to parts of my State, and there is a new series of buildings being built, and we did not know what it was, what these were.

We inquired and we found that there is an entrepreneur from the West Coast who has decided that he does not like raising his family in the environment that they are currently in, has a very thriving business.

But with telecommunications he has decided he can move up and have himself and several people of his firm operate and have their families in a very good environment, good fishing, good hunting, you know, it is fairly decent weather in many places, most people do not realize that, but as a practical matter, that has all come about, because, George, of what you said about the whole revolution.

The difference is, the people on the other islands right adjacent, they cannot get in that, because no one is extending to them the services that this gentlemen will bring to himself, because he has a thriving and ongoing business.

The government currently has no plan to extend the same kind of services to the people around the adjacent islands.

Now, I envision a system, if we have a universal service concept, that somehow or other, those people ought to have the same kind of telecommunications capability, to have telemedicine, tele-education, teleconferencing, tele-opportunities, but I do not see anything in the system yet that assures that someone can do that.

I understand what you said, Mr. Whitehead. I do hope that we can work out a series of pools. I am not thinking that we are going to end up with one master pool any more, but I think there ought to be some series of pools that weighs the necessity of these services in areas that cannot afford them, no entrepreneur will extend them to them, and find some way to do that on a rate payer rather than on a taxpayer basis.

I appreciate your concern. Thank you.

The CHAIRMAN. Thank you, Senator Stevens.

Senator ASHCROFT.

Senator ASHCROFT. Thank you, Mr. Chairman. I am grateful for the opportunity to just pose a couple of questions to Mr. Gilder.

Is it your view that the wireless technology is the necessary precondition to the equalization of costs for service across the country?

Mr. GILDER. Yes. Wireless is what does it.

Senator ASHCROFT. So absent wireless technology, there are still these problems of greater costs in the rural or other areas, correct?

Mr. GILDER. Yes.

Senator ASHCROFT. And we have to be careful we do not confuse costs and rates here. Rates may be equal, but costs are differential, until we get to wireless.

Mr. GILDER. That is right. It is between ten and thirty times as expensive to serve a remote, rural customer as an urban customer today.

But tomorrow, it will be exactly the same to serve the most remote, rural customer as it is to serve the urban customer, just as we see today in DBS, where all of a sudden last summer, the technology enacted complete universal availability of service far superior to existing cable service. It is better resolution, better audio, more channels, everything better.

Senator ASHCROFT. One way.

Mr. GILDER. One way.

Senator ASHCROFT. It seems to me that that is a critical function about communications, is that there are a wide spectrum of communications services that are satisfactory, as long as they are one way.

Mr. GILDER. It is going to be two way, though. The whole industry is turning to digital wireless two-way systems. And these digital wireless two-way systems have the property that it is just as cheap to serve rural areas as urban areas.

You have microcells where there is dense population, and you have macro cells where there is sparse population, and the cost to serve each customer is virtually identical.

This whole differential, this gap, which has underlaid all this whole edifice of regulation, is collapsing, and over the next 3 or 4 years, it will collapse.

Senator **ASHCROFT**. So that in the span of time that it would take to implement whatever legislation——

Mr. **GILDER**. Yes. That is right.

Senator **ASHCROFT** [continuing]. We will be involved with, your prediction is that the problem will be solved by the time you got the pool up and running and operating very well.

Mr. **GILDER**. That is just as we re-regulated cable at the very point that it was facing the worst threat of its history. Last year we thought cable was a monopoly. This year, cable will be struggling to survive.

Now, I am saying that if we assume that there is going to be a big problem of serving rural customers and we have some complex system to serve them, I say by the time that system is implemented, the technology will have solved that problem.

Senator **ASHCROFT**. Dr. Mayo, I believe in your opening statement said that opening local exchange markets to competition will promote both economic efficiency and the development of universal service in this country.

I then later heard you say that we could not rely on opening local exchange to do that, that we would have to subsidize it with a special pool.

Could you give me a little better explanation, or one that maybe I could understand?

Dr. **MAYO**. Sure. I will be happy to. No. 1, when new firms are allowed to enter markets, what we have seen in long-distance markets, and I believe we will see the same thing in local markets, is that the incumbent firm is driven to enhance its quality, to expand its service outputs, to reduce prices, and so on.

All of those things, all of those things create value to consumers, and expand their desire to hook up to the network. We have seen that really in spades over the last decade.

Senator **ASHCROFT**. But is it not true that you have had a requirement of universal service there, but if you allow in competition the sort of creaming, so that they only take the very most valuable, wouldn't there be—would there still be this desire to expand service to the least valuable, as a matter of fact, to the least cost-efficient——

Dr. **MAYO**. That is a good question.

Senator **ASHCROFT**. I would be very pleased to find out that this is all gone, because it is all wireless, in 3 years, but in the event that it is not, is this a problem to you?

Dr. **MAYO**. Well, perhaps we can go—instead of looking to the future, we can look to the past here and draw some lessons there as well.

I think if you look to the past and you look to the case of the development of competition in the long distance industry, in 1984, the 1984 to 1986 period, there were a number of people who said, yes, there is competition today in New York City, San Francisco, and Washington, D.C., in long distance, but it will be a long, long time coming before it ever comes to places like Sullivan, Missouri. It will never come to Helena, Montana, or Moose, Wyoming.

In fact, if you look at the number of providers in those rural areas, we have seen a remarkable development, and that is, going back to the statistics I quoted in my prepared remarks, we now have the situation where there is somewhere between 15 and 30 long-distance carriers in lots of rural places.

I bet if you went and looked at Sullivan, Missouri, you would find that there would be a number of long-distance providers.

So drawing on history, I would suggest that if you open up those markets to competition, we may very well see competition quicker than the fears being expressed.

And that is particularly true if we can get the prices right, if we eliminate some of the subsidy flows that create the very cream-skimming problems, and on the flip side, where you price regulatorially below cost, you obviously have deterred competition. So we do not want that as a government function.

The CHAIRMAN. Mr. Whitehead.

Mr. WHITEHEAD. I would have to say that while I agree with maybe 90 percent of what my colleagues here have said, that I think there will always be a residuum of high-speed, high-technology services that are not efficiently offered through radio, through wireless, and I think that there will be a need for some kind of cross subsidy to guarantee universal service in some way. The key I believe——

Senator ASHCROFT. Do you mean that—do you only guarantee hard-wire——

Mr. WHITEHEAD. No, sir.

Senator ASHCROFT [continuing]. Service to everybody?

Mr. WHITEHEAD. No, sir.

Senator ASHCROFT. I guess there are several questions. If you are talking about guarantees of universal service, one is, certainly nobody, I think, would suggest we have the same service to everybody universally.

Mr. WHITEHEAD. Absolutely not. And that was going to be my qualifier. I think you have to specify which services you are talking about, and you have to target them to the people in need, rather than target them to industries.

Senator ASHCROFT. There is going to be a need for that. Would you explain a little further what you mean by target them to the people in need rather than what?

Mr. WHITEHEAD. Rather than target them to industries. If you subsidize an industry or a company——

Senator ASHCROFT. I see.

Mr. WHITEHEAD [continuing]. And rely on that company, in its wisdom, to decide who is going to get what service, I think that is inefficient and counterproductive.

Senator ASHCROFT. Are you talking about a means testing of subsidies then?

Mr. WHITEHEAD. No. I think we are talking about some kind——

Senator ASHCROFT. Geographic testing?

Mr. WHITEHEAD [continuing]. Of geographic——

Senator ASHCROFT. That is a major difference between Dr. Mayo and your approach then.

Mr. WHITEHEAD. That is right.

Senator **Ashcroft**. I thought you said Senator Stevens would not be eligible for the subsidy, but his neighbor might, in Alaska.

Mr. **Whitehead**. Well, I think I agree——

Senator **Ashcroft**. We may be making assumptions about the value of a Congressional or Senatorial salary that——

Mr. **Whitehead**. I understand. I am presuming that you can afford telephone service if it is priced at its cost. That is correct.

Dr. **Mayo**. I think my colleague and I do agree on his statement that as you move forward to a competitive environment, you need to establish a competitively neutral fund.

I would agree that there are people in this country who need a subsidy to remain on the telephone network, and we ought to do everything possible to promote universal service. We do not need to promote universal service by subsidizing a rural telephone company in Vale, Colorado.

Senator **Ashcroft**. You expect prices to go down.

Dr. **Mayo**. Telecommunications prices, yes, sir, I do——

Senator **Ashcroft**. You expect telecommunications prices to go down.

Dr. **Mayo** [continuing]. In general.

Senator **Ashcroft**. But do you expect to have to have a new subsidy to accommodate people——

Dr. **Mayo**. No.

Senator **Ashcroft** [continuing]. For these lower prices?

Dr. **Mayo**. No, sir. I do not think there is a need for any new subsidy flows. I think there is actually an ability to use our subsidy——

Senator **Ashcroft**. You expect costs to go down.

Dr. **Mayo**. I do expect costs to go down.

Senator **Ashcroft**. Will rates go down or—if the rates are not—if the rates are going down, why would there be subsidies needed where they are not needed now.

Dr. **Mayo**. That is precisely my point. I do not think there are subsidies needed where they—any new subsidy flows at all.

I think, in fact, we can take the current system, make it competitively neutral, and probably more efficiently use the funds we have to reduce the amount of overall subsidy flows——

Senator **Ashcroft**. But you do not want to subsidize rates, you want to subsidize individual consumers.

Dr. **Mayo**. Yes, sir, I do. My own research suggests that over the past decade——

Senator **Ashcroft**. Are we subsidizing individual consumers now?

Dr. **Mayo**. Yes, sir we are, through two schemes, one, a lifeline scheme, targeted to individuals, and the other is called a link-up scheme.

Senator **Ashcroft**. And that is the kind you are talking about.

Dr. **Mayo**. Yes, sir. And both of those have been effective in promoting universal service.

Senator **Ashcroft**. I would invite any other comments in response to my questions, and I will not carry the committee further into this.

The **Chairman**. Take all the time you like. That is fine. This is a good line of questioning.

Mr. **GELLER**. I will not agree with what Dr. Mayo was saying. We are now subsidizing other companies, but as you say, in Vale, we are subsidizing very rich people, casino owners, and in Nevada, the rich ranchers, in Wyoming. It does not make any sense at all. We do not do that with——

Senator **ASHCROFT**. Now, which of those people do you hate the most, the casino owners or the rich ranchers? [Laughter.]

Mr. **GELLER**. I would agree with what was said, that you really do need to subsidize those who are—the beginning of Chairman Pressler's statement was that you needed subsidies, and they ought to be justified and explicit.

Senator **ASHCROFT**. I hope the record will show that I am not in favor of subsidizing those rich ranchers in Wyoming or the casino owners in Nevada.

Mr. **GELLER**. There is a scheme in Maryland, right next door, where if you are on Welfare, you can go to any carrier, it turns out it is Bell Atlantic, but it might be in the future, MFS, you can then get what Maryland says is the basic service, which will evolve over time, but right now it would be touchtone, enhanced 911 voice grade, and when you get that, all these carriers in Maryland have a gross receipts tax.

The carrier which renders that simply remits less to the State. You have not skewed anything. You have supported everybody who needs it, and you have done it in a competitively neutral fashion.

Senator **ASHCROFT**. That is kind of interesting. Do you think that will be a good idea to leave that to the States——

Mr. **GELLER**. Yes.

Senator **ASHCROFT** [continuing]. To create those kinds of subsidy pools——

Mr. **GELLER**. Yes.

Senator **ASHCROFT** [continuing]. If they chose to or chose not to?

Mr. **GELLER**. I think Ken Gordon said it to you correctly, there would be a Federal minimal one out there that could be supported the way others have been put forth, with a value-added tax, or any other way you want to do it.

Senator **ASHCROFT**. I hear you saying the answer is yes, but——

Mr. **GELLER**. No. What——

Senator **ASHCROFT**. Yes, leave it to the State, but make sure that they make the right decision.

Mr. **GELLER**. There is a minimum Federal level of service that would be available to all people on a means test.

Senator **ASHCROFT**. Would that be a separate subsidy from the Federal Government, or do you want to mandate to the States from the Federal Government, and then——

Mr. **GELLER**. That would be run by the Federal Government, since it is a Federal requirement.

Senator **ASHCROFT**. So someone might have two subsidies, one from the State, for the superior service, for the State to decide, maybe it would include 911, or something like that, and the Federal Government would have—so they could get two subsidy checks——

Mr. **GELLER**. That is absolutely right, but it would not be done by two subsidy checks. You could run it in a different way where you just go and get this remission.

But my point to you is that States are laboratories. They should be allowed to experiment. California was——

Senator **ASHCROFT**. Well, should one of the experiments be not to subsidize?

Mr. **GELLER**. No, because there is the Federal one. I mean the Federal——

Senator **ASHCROFT**. Well, if you are really going to let States experiment, you want to narrow the universe of experimentation, so that one of the experiments cannot be to see how well we do if we not provide the service.

Mr. **GELLER**. Well, we are back to what we did in other ones, the mandate. I think the Federal Government——

Senator **ASHCROFT**. It sounds to me like we are back to mandate.

Mr. **GELLER**. If the Federal Government mandates it, the Federal Government should withdraw the money out of the pool.

Senator **ASHCROFT**. But you are the one who says the Federal Government should mandate it——

Mr. **GELLER**. Yes.

Senator **ASHCROFT** [continuing]. And I just was interested that you would have a national policy for a certain level, but let States make decisions above that level.

Mr. **GELLER**. And pay for it themselves. If California wants something, let California residents pay for it.

Senator **ASHCROFT**. Well, let us just—I feel compelled to say that what California residents get, they will pay for themselves, whether it comes by way of Federal subsidy, or the—this idea that there are State dollars and Federal dollars, they all look the same, they all spend the same, and they all came from the same place, the taxpayers.

Mr. **GELLER**. But Senator, look, if the State can jack up universal services to broadband, all bells and whistles, why should people in the District of Columbia and New Jersey pay if the State wants to go beyond——

Senator **ASHCROFT**. I would not challenge that at all. If a State wanted to do that, it should be theirs. If I argued with you at all, and I just want to ask you questions, I do not want to argue with you, but if I were to argue with you, I would argue about why have any Federal guarantee, why not let States make the decision about the entire range of subsidy.

Mr. **GELLER**. It would not be the end of the world. States would have to protect their citizens. People would vote with their feet, if they did not get adequate——

Senator **ASHCROFT**. Now, I just want to make sure, you said it would not be the end of the world if we let States make these decisions.

Mr. **GELLER**. It would not be. It would not be.

Senator **ASHCROFT**. That is good to know. It was not when we bid it years ago, and it probably would not be again. Mr. Chairman, thank you.

The **CHAIRMAN**. Thank you for that excellent line of questioning. I would like to move toward a conclusion by asking what would be the consequence if this Congress fails to reach an agreement on telecommunications legislation?

I have frequently said that if we let this thing slip and we get into appropriations season, or if we get over into next year, into the Presidential atmosphere, we may well find ourselves going to 1997.

Now, Mr. Gilder, you have pointed out that, you have argued that the telecommunications and information industry is becoming increasingly irrelevant, because modern technologies are innovating right around existing laws, so to speak.

Are you suggesting, therefore, that it makes little difference whether we pass deregulatory legislation this year?

Mr. GILDER. No. I think it is vital that it be passed for one key reason, and that is the information superhighway, as it is called.

In order to create an information superhighway, you have to allow telephone companies to collaborate with cable companies in their own regions, or buy cable companies in their own regions, because that is the only way you can get an integrated network.

Without it, you will get a whole series of different suppliers, of cable service, as it is, 500 channels of movies and games, or whatever, but you will not get the kind of two-way national communications network to serve the $40 million personal computers and other devices with an array of really valuable new services.

So I think that is the crux. The crucial thing is to allow companies to reshape themselves as they wish, in order to deliver a broadband, universal, two-way information superhighway. If they cannot do that now——

The CHAIRMAN. I want to get some other people in this. How big a deal is this, in terms of—you call it a $2 trillion opportunity. Now, when Judge Greene restructured the telecommunications companies, some called it the largest industrial restructuring in history.

I think that is a little bit bigger a description than maybe it was. But how big a deal is this in terms of our nation's economy?

Mr. GILDER. I think it is ultimately a $2 trillion opportunity. I estimate that figure, and I think it is that much difference.

I mean if we lose the edge in all these spearhead technologies of the information era, if American capital from phone companies generally flows overseas, rather than to services in the United States, the United States will be severely injured in its future, and we'll let a huge opportunity go if there is a failure to act on these points, and allow these companies to truly compete, and collaborate, and reshape the economy in accord with radically changing technology.

Dr. MAYO. The question is: What do we miss if we do not move forward with legislation this year? First, let me say that, based on the analysis in the economics community, I do not quite know where we get a $2 trillion figure from.

I think that is a person's point estimate, and it is very difficult to quantify the magnitude of these things.

The thing that I think you miss is an opportunity foregone, and particularly in providing national guidance toward a policy of opening local exchange markets, really the last vestige of monopoly in this country, to an open, competitive marketplace, because by doing that, we really do have a promise of promoting economic efficiency and enhancing consumer benefits to a tremendous extent, although you cannot really quantify that.

On the other hand, I would say to you that there is perhaps not the rush that some would tell you there needs to be to go out and fix a broken market. I think you need to be very careful about that, some of the more speculative claims here.

Mr. WHITEHEAD. I think it is in the category of a huge opportunity lost. We have an industry today that is Balkanized into several artificial categories.

It would be like telling the personal computer business that one company can provide computers that have text displays, another industry can build computers that do not have hard drives, another one can build something that cannot communicate.

We have an incredible Balkanization in the corporate structure of American communications, but the technology, as George Gilder has said, has just washed over that.

The incredible convergence of information, entertainment, and communications technology, centered around digital technologies, makes possible a whole range of new services and new things that people can do with communications.

And if you do not pass a comprehensive bill that erases the corporate Balkanization, you are enforcing the continued Balkanization of the user.

The CHAIRMAN. Now, is Ms. Bingaman's and the Administration's position at the Department of Justice, as well as the FCC, to determine market entry for Bell Company provision of long-distance service a good one?

Mr. GELLER. I want to say that I do not think—I think she is proceeding very well. She is saying that you have to open up the local market, and that it is the open access in facilitating competition, and she lists the proper conditions.

She goes on to say she does not want a significant share test, but she wants to actually see this tested in the market, because if not, if you can that something is available for resale, or something is available for interconnection, it is not until you get down to actually working it out with MFS, or Teleport, or MCI, Metro, that you will see whether that is so.

And finally she says there has to be conditions placed on it that ensure against improper cross subsidization and so on.

So I think she has the three of them correct, from her point of view. She can only do so much, whereas legislation can do far more.

Where I differ, as I say, with her is I think in legislation, you can do the letting in, letting out with the time certain.

You can focus so that it has to be done within 2 years of letting in, so the letting out has to be done within a comparable period, and that cannot be done by anti-trust, it can only be done by you, to break out of this festering mess and put us on the road where there is a full contribution by all players and we are finally moving out of the local monopoly situation.

The CHAIRMAN. But if we took all of the steps and proceedings, following up on your comment, and had all the steps that Mrs. Bingaman and the Administration seem to want, there are some who say that it would take a very long time for the Bell companies to open up.

They would go on and on and on. That seems to be the key dilemma of this bill, and we will end up on a roll call vote on the floor of some sort, the concept of how do we get to a point where the Bell companies are forced to open up or determined to be opened up, but it continues to be a process or conditions without a date certain of some sort.

How long do you estimate it would take for the Bell companies to compete in currently prohibitive markets, 3 years, 5 years, a decade, or longer? Does anybody have an estimate?

Mr. HUBER. I have an estimate.

The CHAIRMAN. Yes.

Mr. HUBER. We have experience. We do not have to guess with this. I mean the department was thinking of the easiest, letting the Bell companies compete against each other out of region——

The CHAIRMAN. Right.

Mr. HUBER [continuing]. In 1987. It has yet to implement anything on that. I finished my report, the first finding, a review at the end of 1986. It was filed with the District Court in 1987. It was not until 1991 that the removal of the information services restriction took place.

The debate over comparatively simple things, like letting wireless companies do long-distance service, where there clearly is no—they take 3 or 4 years, and these are the relatively simple ones.

And each of these markets, it was asked earlier what are the economic consequences? We have a billion dollar voice mail market today, that finally sprang into existence after we removed the information services restriction.

The FCC estimates that cable prices are 15 or 20 percent too high. We could have had cable-telco competition for years, if we had gotten our legal process in order. We are talking there about $2 billion, $3 billion, or $4 billion a year in consumer benefits.

We know what the procedures of Justice—we know how they operate. We do not have to guess. There is an incredible sense of lethargy and go slow there, and I think part of it is just institutional and part of it is a tactical choice.

I cannot disagree with the goals articulated, but the implementation is where all the real action does not happen.

Mr. GILDER. You ask how long—the key is to let them fight with each other. Let them go into their—let Nynex go into Chicago, rather than in New Zealand and Poland.

I mean that is the point. If the RBOCs are competing against each other all across the country, the issue dissolves.

The CHAIRMAN. Yes. But everybody is in favor of that, of course, but the question in this legislation that seems to be a contentious point is, do you have a date certain, or do you have tests, or do you find some combination.

You can say a great 800-pound gorilla—they can just sit there and not open up, you see. That is the argument. What if they do not open up their markets to anybody else?

Mr. GILDER. I think they are open. Their markets are open, because service is moving to wireless. Most telephones—in 5 years there will be more wireless telephones than there are wire lines telephones.

Already there is a lot of competition in wireless, and wireless means the competitive——

Mr. WHITEHEAD. Open access means that there is free entry, that there is competition, there is opportunity for interconnection, and there is a requirement of unbundling. Those conditions can be directed relatively simply and relatively quickly.

When that is done, you asked the question: How long will it take the Bell companies to compete? I do not think it is years. I think it is months. You ask how long to take the other companies to compete with the Bell companies.

For heavens sake, they are already doing it. AT&T is the largest cellular operator in the country, and with PCS, is going to have a nationwide wireless connection that can reach every home in the country.

Many of the other RBOCs will be doing the same thing, and the long-distance companies. I think if you ask when can it happen, it is months. If you need a year or two, it is just simply to get people clear in their minds and think about it.

Mr. HUBER. If you do not set a calendar or a date certain, we will simply let the procedures absorb all this. I might respond also with a rhetorical question.

If there are all these preconditions that have to be met before competition will work, should we stop providing long-distance service while they unbundle and provide portability? After all, they serve six million local customers?

Should we turn them off, if there are 500 other providers? We will just lose one, so let us stop that service while we wait for these procedures? Why has not Justice been urging that?

The answer is, Sprint is a terrific competitor. It should be in the market. It provides good service. It is a good discipline for AT&T and MCI, and we need more Sprints. We should let them in now.

Mr. WHITEHEAD. What Ms. Bingaman has proposed is fine within the current regulatory framework, but what you are talking about is changing it, changing that regulatory framework.

I think very strongly that what you should do is set a time certain, but sooner rather than later, and get on with it.

Dr. MAYO. Senator, for the reasons I have described in the paper attached to my statement, I feel pretty strongly that the date certain approach is not the correct approach. I guess I disagree that local markets are open today.

We have a situation where virtually 100 percent of the residential customers in this country do subscribe to the local exchange telephone company, and do not have a choice about that.

I would commend you on both bills that are before this committee, or drafts, in terms of moving the process forward to opening local exchange markets to competition.

I think you will accelerate the day at which the Bell operating companies do pass that test by promoting the local exchange provisions that you have in this bill.

It seems to me that it would be a disservice to the country to allow a monopolist into a competitive market with the possibility that they abuse those market powers by setting a condition for entry based on a calendar rather than based on market realities.

Mr. GELLER. I disagree with that. I think that it would be so if you did not have the letting in process being set by the calendar, also.

If you just said you get out in 3 years, I think Senator Hollings is right, everything will be stalled, and at the end of 3 years—what you have mandated, though, is that this letting in process for all those things, unbundling, resale, down that whole line, one plus, all that must be done, and it has to be done within a time certain.

You have to choose the proper time certain, but when those things are done, it seems to me that it is absolutely appropriate, on the same basis, to let the RBOCs out.

If you do not do that, the proceedings on whether or not you have got the right unbundling, whether or not the rates are right will go on for years and years and years, and this thing will fester for years and years.

What you have done may be kind of unsound administrative law, in the sense that you are just forcing it, but the reason why you are forcing it is experience has shown that it will hang fire and fester, and you are just saying, damn it, get through it. It is a letting in, letting out on the same timetable.

The CHAIRMAN. Mr. Gilder, you have expressed some reservations about the spectrum auctions the FCC is carrying out currently. What is it about the auctioning mechanism that you do not like, and what is your alternative to it?

Mr. GILDER. The auctions tie particular parts of—gives exclusive rights to particular spans of spectrum for particular uses.

I believe that new technologies will allow you to use spectrum the way we currently use our real highways. In other words, you will be able to see other uses and avoid interfering with them, just as when you go on a highway, you are permitted to go on a highway, as long as you do not exceed the speed limit, or crash into somebody else, or interfere with other people.

Similarly, with broadband digital radios, we will be able to use spectrum, share spectrum without interfering with other uses, and there are a variety of new technologies that are becoming available that allow sharing spectrum.

I am afraid that here we are inducing companies to spend $10 billion, $20 billion, whatever it is going to be, to buy exclusive rights to this wide range of spectrum, and use obsolete technologies in them, that is, technologies that require exclusive control of spectrum in order to function.

There are all sorts of technologies that allow you to share a spectrum. So I think that, again, the government is acting without sufficient consciousness of the speed of technological advance.

Mr. WHITEHEAD. Like Dr. Johnson's dog, you know, the wonderful thing is not how well it does it, but that it does it at all, walking on its hind legs, that is. I think we have to commend both the Congress and the FCC for doing it at all.

Mr. GELLER. I want to say on that, that you still have to pass out the spectrum. The best way to pass it out is the way you pass out land, by auctioning so that it goes to the one who values it the highest.

I agree fully with Mr. Gilder that there ought to be flexibility in its use. Such flexibility was given to cellular and 800 megahertz, it was given to the PCS people. They can do anything they want with it, subject to rules of the road.

When people buy it, I agree with them, they ought to be able to use it. In the future, I think that with what is happening in the microprocessor area is probably right, but today, I think that the way the FCC is proceeding is correct, with one exception, that flexibility that you are proposing to give to the broadcasters, ought to be given to everybody, and when they take the spectrum and pay for it, they know it can be used for a wide variety of uses, subject to no interference.

The CHAIRMAN. A final question: Mr. Gilder, why do you believe that a one-wire world is the only way to bring the information superhighway? Others argue that you have to force two wires to compete to get there.

Mr. GILDER. I believe that today the United States has a huge advantage. We have 95 percent of our households passed by cable service, broadband cable connections. They are 250,000 times as capacious as the phone wires that reach these homes.

I do not believe, regardless of what the telephone companies say, that the capital markets will permit them to duplicate the broadband connections, which already are in the ground, and installed at great expense over 25 years by the cable industry.

So what we will have instead is a bunch of kind of half-baked services that do not constitute a full information superhighway.

It seems to me the only way to get a full information superhighway is to allow phone companies to collaborate with cable companies in their own districts. Now, that is one wire.

Now, there may be other wires that will actually end up being laid, and there will be wireless services, and there is DBS, there will be all kinds of competition, but in order to have an information superhighway, two-way, broadband, digital service, you are going to have to allow phone companies to connect to cable companies in their own districts.

There is no other way that it can happen over the next 5 years. All other schemes require 15 to 20 years, and destroy a great American asset and a great American opportunity.

The CHAIRMAN. All right.

(Whereupon, at 12:20 p.m. the committee resumed in executive session.)

(Whereupon, at 12:25 p.m., the committee resumed in open session.)

The CHAIRMAN. I now would like to thank Mr. Huber for his patience in New York. Do you have a final comment for us, Mr. Huber? You have been sort of not able to jump in as much as some of the others.

Mr. HUBER. Thank you very much for the efforts that were taken to let me join this committee. I very much hope the committee will pass the legislation, or at least refer it on to a higher authority. The country really does need it, and it needs it urgently.

I want to thank everybody here, because I think the testimony has been excellent. I think the questions were excellent. I will bring this hearing to a close.

(Thereupon, at 12:30 p.m., the hearing was adjourned.)

APPENDIX

MATERIAL SUBMITTED FOR THE HEARING RECORD

THE WEFA GROUP

FOR IMMEDIATE RELEASE
MARCH 1, 1995

FOR FURTHER INFORMATION
MIKE RAIMONDI, 617/221-5843

Short-Term Delays Risk 1.5 Million New Jobs by the Year 2000

WEFA FORECASTS IMPACT OF COMMUNICATIONS COMPETITION

Full and immediate competition in all areas of communications would create millions of new jobs, lower consumer rates substantially, stimulate economic growth and lead to the deployment of new services, according to a new study by The WEFA Group. However, most of the near-term benefits are at risk from even short-term delays in competition, the study concludes.

Mike Raimondi, Executive Vice President of The WEFA Group, said, "Our findings show that the economic and employment situation in America by the year 2000 is significantly worse for every year communications competition is delayed."

The WEFA study concluded that if the Congress were to pass legislation that simultaneously opened all communications markets to competition on January 1, 1996, the American economy would create 3.4 million additional new jobs within ten years -- 2.1 million new jobs by the year 2000. During the same ten years, full communications competition would:

- increase GDP by $298 billion;
- save consumers nearly $550 billion in lower communications rates; and,
- increase the average household's annual disposable income by $850.

(OVER)

The study also concluded, however, that delaying and staggering competition over three years would cost the nation 1.5 million jobs, $900 billion less in cumulative real GDP and $500 billion less in cumulative real income -- just by the year 2000. In addition, WEFA concluded that every year of delay costs consumers an average of $55 billion in higher communications rates, of which $40 billion results from long distance rates alone. The study found even higher costs for phasing in full competition over five years.

"Quite simply, America will not see the real benefits of the information age by the twenty-first century unless full competition is introduced to all communications markets soon," said Jerry Hausman, MacDonald Professor of Economics at M.I.T. and a contributor to the study.

The analysis also found that delaying competition would push back the deployment of new advanced services, causing an "economic welfare loss" -- or loss in the economic benefits of new services -- amounting to more than **$110 billion every year that full competition is delayed.** This welfare loss includes a loss of $40 billion per year due to lost medical and education services, $20 billion per year in advanced information services that would not be deployed, and $29 billion per year in video conferencing that would not reach consumers. The study concluded, on the other hand, that full and immediate competition would result in the immediate deployment of these new services -- and an annual **gain of between $750 and $1,000** in average consumer welfare for each U.S. household.

The WEFA Group is a leading international economic forecasting firm headquartered in Bala Cynwyd, Pa. The WEFA Group is internationally recognized for its detailed economic forecasts which are used for business planning and analysis.

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